

PREFACE.

THIS work is not a literal translation of any particular use, but a compilation from standard Sanskrit medical works, arranged somewhat upon the plan of Waring's Manual of Therapeutics, and intended to give a concise exposition of the Materia Medica of the Hindus. Dr. Wise, in his commentary on the Hindu system of Medicine, has given a pretty full and accurate

of the Anatomy, Surgery and Pathology of the Hindus. In the preface to my translation of the Nidāna, "That of India cannot be too grateful to him for the trouble taken in bringing to light the contents of their ancient books, and establishing their right position in the history

The scope and plan of his book did not, however, treating of Sanskrit Materia Medica in the manner of the works on the subject. I have, therefore, undertaken this *pharmacopoeia* under the impression that it will prove a good service to the history of drugs, and will be of use in the treatment of indigenous medicines.

I admit of detailed errors, have given an account of the literature to find, in different parts of the work, the more numerous which many little manuals, essays and commentaries of which I have heard before. It would seem that in the absence of teachers of medicine used to prepare small compilations of such prescriptions as they were in the habit of giving under the guidance of their pupils, who copied them faithfully.

These manuals are often doctored with fancy, but have more or less circulation according to the extent of influence of their authors. There are a few works which owing to their comparative *parā* or real merit, are well-known. *व्यान् दधि च साषाश्च यविका*
I cite them briefly *चरकसूत्रस्थान नानाश्रितौ*

heating effects on the system, and their special influence on the humours which are supposed to support the machinery of life, namely, air, bile, phlegm and blood. These are not so much the result of observation and experience as the outcome of an erroneous system of pathology and therapeutics. I have, therefore, selected for notice such portions of the texts as relate to the practical use of the drugs and their tangible effects on the system. This latitude, departing from the texts, has enabled me to bring together in one place, useful hints regarding the uses of particular drugs from different Sanskrit treatises on therapeutics. I have occasionally added remarks on their history and etymology, where I thought I had new or additional information to afford on the subject. These remarks are for the most part based on personal knowledge.

In describing the preparation and uses of medicines employed in different diseases I have confined myself strictly to the views of the authors whom I have quoted, and have given the corresponding Sanskrit verses in foot notes. I have not incorporated in them the results of modern researches on indigenous drugs, or personal experience of their use. These I have reserved for a future essay. My object here has been to show the extent of knowledge attained by Hindu physicians from ancient texts and observation.

favoured to include under some head or other most of the combinations which were pointed out to me by experienced native physicians, as generally used in practice

in detailing the uses of particular combinations of medicines, but writers are, sometimes, in the habit of indulging in inflated statements. Thus for example a medicine, which is used in a special disease, say jaundice, is described in the text devoted to the treatment of this disease, but a host of diseases may also be recited as cured by it. Native physicians regard these writings as sacred, explain these irrelevant statements by saying that they are secondary uses. I have, for the most part, omitted them in my translations of the texts, hence my English renderings will sometimes appear deficient or incomplete.

The names of the works given below the Sanskrit texts merely indicate that those texts are to be found in them, and not that they were originally composed by the authors or compilers of those books. The combinations or formulæ generally used, are to be found in the compilations, and it is not always practicable to trace them to their original sources. In quoting these authorities I have, as a natural consequence of the principle upon which the prescriptions were selected, had to give preference to works that are used as text-books by native physicians.

The number of Sanskrit medical works, and especially of small compilations on the treatment of diseases, is too numerous and infinite to admit of detailed enumeration here. The enquirer of them is sure to find, in different parts of the country or seats of learning, many little manuals, essays and digests of which I had not heard before. It would seem that in the absence of printing, teachers of medicine used to prepare small compilations containing such prescriptions as they were in the habit of giving for the guidance of their pupils, who copied them for personal use. These manuals are often dobed with fancy, and have more or less circulation according to their merit or the extent of influence of their authors. I have selected a few works which owing to their comparative date, or real merit, are well-known. I will now notice them briefly.

The two works called Charaka Sanhitā and Susruta vedī are the oldest and most celebrated treatises on Indian medicine now extant. An older work called Āyurveda is mentioned in both these works as having formed a part of Atharva Veda. It is said to have been originally composed by Brahma, the creator, and to have consisted of a thousand and a hundred thousand *ślokas*. Afterwards, in consideration of the short lives and small intellects of human beings, it was abridged into eight chapters as follows —

- 1 *Salya* or surgical treatment
- 2 *Salakya* or diseases of the head, eyes, ears and face
- 3 *Kayachikitsa* or treatment of general diseases
- 4 *Bhutavidya* or diseases caused by evil spirits
- 5 *Kaumara bhūtiya* or the treatment of infants and puerperal state
- 6 *Agada* or antidotes to poisons
- 7 *Rasajana* or medicines which promote health and longevity
- 8 *Vajikarana*, or aphrodisiacs

The Āyurveda with a hundred thousand *ślokas* is probably a myth, but the abridged Āyurveda with its eight divisions is supposed to have had a real existence, although it is not available in the present day. It probably became obsolete after the works of Charaka and Susruta were composed.

Charaka is generally believed to be older than Susruta, consequently to be the oldest work on Sanskrit Medicine now extant. In the introduction to this work it is said that Asvatthara, a learned devotee, taught the holy Āyurveda to six pupils, Agnivesa, Bhela, Jitukarna, Parasara, Harita and Kati. Agnivesa first wrote a treatise on medicine, and afterwards the others followed, each producing a separate work, or by acquiring great renown. The work of Agnivesa is considered as the best. It was edited or corrected by Asvatthara, whose name it is now current. At the end of this work it is said, that this *tantra* or scientific treatise was composed and corrected by Charaka in his introduction to his Ashtanga-
and been compiled from the

of Agnivesa, Hārta, Bhela, Sasvata, Susruta, Kavala, and others. From this it would seem that the six disciples of Atreya, mentioned in Charaka, were not mythical beings, but authors of books, for two of them, namely, Agnivesa and Bhela are mentioned by Vagbhata. It would appear also that at the time Vagbhata lived, Agnivesa's work was not called by the name of Charaka, and Susruta had also been written. Hence it follows that Charaka's edition of Agnivesa, that is the work now called Charaka, was probably edited after Susruta had been written. Atreya is said to have lectured somewhere near the Himalaya, and his name occurs very frequently in the Vedas. His father Atri was a renowned sage, and the author of a law treatise which is current in his name. There is no clue to the nativity of Charaka, but Dridhabala, who added some chapters to his work, calls himself a native of Panchanada or the Panjab.* Susruta, on the other hand, is said to have been written in Benares. From the facts detailed above it is clear that the work called Charaka was composed at a very early age. I will not attempt to hit at the century before Christ in which it was probably written as it is a question which can be best discussed by professed antiquarians. I may notice, however, that the book is composed in an antiquated style and appears to have been written before the spread of the Puranic form of Hinduism, as the names of modern gods and goddesses do not occur in it, and the author does not, at the commencement of the work, offer his salutations to any mythological deity, as is usual with later writers. Beef was not then, apparently, forbidden food, for Charaka speaks of it as an article of diet that should not be taken daily.†

* अखण्डार्थं दृढबली जात पञ्चनदे पुरे । कला बहुभ्यस्तन्त्रेभ्यो विशेषाच्च बलीचयम्
सप्तदशौषधाध्यायै सिद्धिकल्पैरपूरयत् ॥ शेषाध्यायचरकसिद्धिस्थानम् । †

† कुर्शिकाश्च किलाटाश्च शौकर गव्यमादिषे । मत्स्यान् दधि च माषाश्च यावका
शीलयेत् ॥ चरकसूत्रस्थान मावाग्निती

The work next in point of age, namely, Susruta, is more systematic in its arrangement, contains better details of anatomy and pathology, and shews on the whole more advanced state of knowledge, both of general principles and of details of treatment.

The origin of the Susruta Āyurveda is thus described in the introduction to that work. Dhanvantari, the surgeon of heaven, descended upon earth in the person of Diva dāsa, king of Benares, for the purpose of teaching surgery along with the other branches of medical knowledge by which the gods preserve themselves from decline, disease and death. Susruta and other pupils besought him for instruction in surgical knowledge. Dhanvantari asked them what they wished to learn. The pupils replied "you will be pleased to make surgical knowledge the basis of your instruction, and to address your lectures to Susruta, who will take notes." Dhanvantari replied, "be it so. For surgery is the first and most important part of the Āyurveda, inasmuch as the healing of wounds was the first necessity for the medical art among the gods on account of their battles with the demons. Besides surgical treatment effects rapid cures, has recourse to instruments, mechanical appliances, caustics and the actual cautery and is intimately connected with the other branches of medical science." Accordingly we find that Susruta devotes the greater portion of his work to such subjects as anatomy, surgical instruments and operations, inflammation and surgical diseases, care of the king and his troops in the battle-field, obstetrical operations, poisons, etc.

The general diseases such as fever, diarrhoea, chest disease etc., are treated of in the last book called "Uttara tantra," but there are reasons for believing, that this portion did not originally form a part of the work, but was subsequently added by some writer with the object of giving completeness to it. This is evident from several reasons. The very name *Uttara* "supplemental" is enough to suggest the idea of its being an afterthought, if not a subsequent work. Had it been an integral part of the original treatise, it would have been included in the original scheme. But at the end of the first chapter of the book an analysis of the contents of the entire work is given, in which it is said that this work consists of five parts.

containing 120 chapters in all * This is followed by a line to the effect that in the Uttara-tantra the remainder of the subject will be described This last line, however, is evidently an interpolation, for if the original writer of the work had divided his book into six parts, he would not have said that it consisted of five parts Besides the Uttara-tantra has a separate introduction in which the writer says it is compiled from the works of learned sages on the six divisions of *Kayachikitsa* or the treatment of general diseases, and from the work of Vīdehīdhīpa on *Salakya* Sastra or diseases of the head, eyes, ears and nose

If therefore we leave out of consideration the Uttara tantra of Susruta, the work resolves itself mainly into a treatise on the principles of medicine as bearing on surgical diseases It would thus appear that from a very early age, Hindu medical practitioners were divided into two classes, namely, *Salya chikitsaka* or surgeons and *Kayachikitsaka* or physicians The surgeons were also called *Dhanvantariya sampradaya* after *Dhanvantari* the reputed teacher of Susruta, or from *Dhanvantari* the mythological surgeon of the gods This division existed before the work of Charaka was compiled, for as pointed out by Kaviraja Brajendra-kumar Sen Gupta, Charaka, like our modern physicians, refers his readers to surgeons when surgical aid is necessary, as for example in the passage quoted below † We may conclude, therefore, that Charaka is the oldest treatise on Medicine and Susruta the oldest treatise on Surgery now extant

These two works, namely, Charaka and Susruta mark the highest phase of development of the Hindu system of Medicine in ancient times Their comprehensive character and superior merit probably led, in course of time, to the extinction of the

* वीज चिकित्सितस्यैतत् समासेन प्रकीर्तितम् । सविशमध्यायशतस्य व्याख्या भविष्यति । तच्च सविशमध्यायशत पञ्चसु स्थानेषु । तत्र सूत्रस्थान निदान शारीर चिकित्सित कषयेष्वर्थवशात् सविभज्योत्तरे तन्त्रे शेषानर्थान् व्याख्यास्याम । इति सुश्रुत प्रथमाध्याय ।

† तत्र धन्वन्तरीयानामधिका क्रियाविधौ वैद्यानां कृतयोग्यानां व्यधश्चेति रोपये ॥ चरकचिकित्सितस्थानगुणाधिकः L.

manuscripts of authors who had preceded them. Succeeding writers and practitioners came to regard these works as of divine origin and beyond the criticism of man. Accordingly they dared not add to or amend what these ancient sages had recorded regarding the general principles of medicine and special pathology, but confined their labours to making better arranged and more compendious compilations for the use of students, and to explaining or dilating upon the texts of Charaka and Susruta, while in the matter of surgical practice, there has been a gradual decline in knowledge and experience till at the present day an educated surgeon of the Dhanvantariya sampradaya is a phenomenon unknown in Hindustan.

The next compilation on Hindu Medicine is said to be the *Ashtanga hr̥daya saṁhitā* by Sinha Gupta Sena Vagbhata. This work is a mere compilation from Charaka and Susruta methodically arranged. It contains little or nothing that is original or that is not to be found in the works from which it was compiled. This circumstance, together with the fact of Vagbhata being always mentioned by later writers as an old authority, seems to show that his work was compiled not long after those of Charaka and Susruta. Like these two writers he does not mention the use of mercury in the treatment of diseases.

Next in point of age, are the two works called respectively the *Nīdāna* by Mādhava Kara and *Chakradatta-saṅgraha* by Chakrapāṇi Datta. The first is a concise treatise on the causes, symptoms and prognosis of diseases, compiled from various authors, and has been used from a long time as the text book on pathology by students of Hindu Medicine throughout India. Professor Wilson is of opinion that "the Arabians of the eighth century cultivated the Hindu works on Medicine before those of the Greeks, and that the Charaka, the Susruta, and the treatise called *Nīdāna* were translated and studied by the Arabians in the days of Harun and Mansur (A. D. 773), either from the originals, or more probably from translations made at a still earlier period into the language of Persia."

The treatise called *Chakradatta-saṅgraha*, describes in detail the treatment of diseases arranged in the order in which they are described in the *Nīdāna* of Mādhava Kara, and to which it is a companion volume. Its author deals chiefly with vegetable drugs

He gives a few prescriptions containing mercury, in which this metal is mixed with sulphur and vegetable substances, but the preparations of mercury produced by sublimation and chemical combination with salts, etc., were unknown to him. It would appear, therefore, that mercury was just coming into use in his time. He does not mention opium, so that his work, and consequently the Nidana, must have been composed before the introduction of this drug into India by the Mussulmans.

The last great work on Hindu Medicine is that called the Bhavaprakasa, compiled by Bhava Misra. It is a comprehensive treatise, compiled from the works of preceding authors, with much additional information on the properties of drugs, accounts of new drugs, and of some new diseases, as for example the syphilis introduced into India by the Portuguese and described in this work under the name of Phiringi-roga. By the time this work was composed, opium had been largely employed in practice, the use of mercury had extended to almost all diseases, various preparations of gold, silver, tin, copper, orpiment, arsenic, etc., had come into fashion, superseding to a considerable extent the vegetable drugs of the older writers, in short Hindu pathology and therapeutics had reached their acme. Dr. Wise says that the Bhavaprakasa was composed about three hundred years ago. It cannot, at any rate, be a much older work. China root, called Chobchini in the vernacular, is described in it. According to Fluckiger and Hanbury the use of this drug as a remedy for syphilis was made known to the Portuguese at Goa by Chinese traders, about (A. D. 1535). Hence the Bhavaprakasa must have been compiled after this period.

Besides the systematic treatises on the description and treatment of diseases above noticed, there are several works in Sanskrit devoted especially to the description of the synonyms and properties of individual medicines and articles of diet. The oldest treatise on this subject is the one called Rājanirghantu. It is generally ascribed to Dhanvantari, but Pundit Madhusudan Gupta estimated the age of this work at 600 years. As both mercury and opium are mentioned in this treatise, it cannot be older. Some later compilations on this subject are in general use at the present day. In the North West Provinces, the Nirghantu, compiled by Madhupala, is generally perused by students. In Bengal, a very superior

compilation, under the name of Rajavallabha, is in currency In Orissa, a superior work, called Satkantha-ratnabharana, is used

The progress of chemistry or rather of the art of calcining, subliming and of otherwise preparing mineral substances for medical use, was comparatively slow in the early ages Susruta used the natural salts, such as chloride of sodium, impure carbonates of potash and soda, borax, etc, he employed iron in anæmia, and briefly referred to the supposed properties of silver, copper, tin, lead and the precious stones, but he gave no detailed instructions regarding their calcination, preparation or administration in special diseases Chakradatta gives some processes for reducing to powder iron, copper and talc, and a few prescriptions containing these remedies The oldest work containing a detailed account of the calcination or preparation of the different metals (such as gold, silver, iron, mercury, copper, tin and lead), for internal use, with formulæ for their administration, is I believe a concise treatise on medicinal preparations by Sarangadhara Opium and pellitory root are mentioned in this work, hence it must have been compiled during the Mussulman period Since then a host of works on metallic preparations and combinations have been prepared both in Bengal and the North-West Provinces, and mineral medicines have been largely adopted in the treatment of diseases The more important parts of the information contained in these works are embodied in the Bhavaprakāsa and the two works on inorganic medicines generally used in Bengal, namely, Rasendra chintamani and Rasendra-sarasangraha As observed on page 54, most of the mineral preparations of the Hindus consist of their few metallic remedies combined or mixed together in an endless variety of forms Nevertheless we cannot help admiring the ingenuity and boldness of the Hindu physicians, when we find that they were freely and properly using such powerful drugs as arsenic, mercury, iron, etc, while the Mussulman Hakims around them, with imperial patronage and the boasted learning of the west, recording such remarks regarding them as the following —

“Soomboolkhar, ‘the white oxide of arsenic’ There are six kinds of this, one named Sunkia, the third Godanta, the fourth rma, the fifth Huldea The Yunani physicians do not allow this a part of their prescriptions, as they believe it destroys the

vital principle The physicians of India, on the contrary, find these drugs more effectual in many disorders, than others of less power, such as the calx of metals For this reason too I am in the habit of seldom giving these remedies internally, but I usually confine my use of them to external application and as aphrodisiacs which I prescribe to a few friends, who may have derived no benefit from Yunani prescriptions It is better however to use as few of them as possible " ¹

"Para, 'Mercury' It is very generally used throughout India in many ways, both in its native and prepared state, but in the latter we ought to be very cautious, for it is seldom sufficiently killed or removed from its native state, in which it is a dangerous drug " ²

"Loha, 'Iron' It is commonly used by physicians in India, but my advice is to have as little to do with it as possible " ³

At the end of the present work is appended a glossary of Indian plants described by Sanskrit writers In the body of the work I have selected for notice only such drugs and plants as have some definite use in a particular disease, or class of diseases Numerous other plants used in medicine incidentally, or for economic purposes, are mentioned by Sanskrit writers, but these are not of sufficient importance in a medicinal point of view to deserve detailed notice in a work of this sort I had prepared an alphabetical list of these plants with their vernacular and scientific names for my personal use Dr King kindly undertook to revise this glossary for me, and, at his suggestion, it is printed as an appendix to this work

The Bengali equivalents of the Sanskrit terms in the glossary have been taken mainly from Sir Rāja Radhākanta Deva's Encyclopædia of Sanskrit learning entitled the *Sabdakalpadruma* The Hindi names have been obtained from the vernaculars given in the *Bhāvaprakāśa*, the *Amṛita-sagar*, a Hindi translation of a treatise on Sanskrit medicine, and the *Kesava-bīnoda-bhāṣa Nirghantu*, a Hindi treatise on therapeutics translated from the Sanskrit by Pandit Kesava prasāda Dvivedī of the Agra College

The scientific equivalents of these Sanskrit and vernacular terms have been gleaned chiefly from Roxburgh's *Flora Indica*,

1 Taleef Shreef, translated by George Playfair, page 99

2 Idem, page 26

3 Idem, page 146

Jameson's Report on the Botanical garden of the North-West Provinces for 1855, O'Shaughnessy's Bengal Dispensatory, Powell's Report on Punjab Products, etc. The translations of these writers have been verified, whenever it was practicable to do so, by identifying the plants in the Royal Botanic Gardens. The rest have been given chiefly on the authority of Roxburgh after carefully comparing his descriptions with the characters assigned to them by Sanskrit writers. Some plants, the identification of which was doubtful, have been omitted from the list. The scientific names of many of these plants have been ascertained for the first time, by Dr King, after examination of specimens procured by me. Dr King has also furnished the recent botanical names of numerous plants the old names for which have now become obsolete. With regard to the spelling of the Sanskrit and vernacular terms, I should mention that professor H. H. Wilson's system of transliteration, or as it is now sometimes called the Hunterian System, has been adopted, so far as is necessary to arrive at the correct pronunciation of the words, but the minute distinctions between the two varieties of the dental and palatal S, the four varieties of N, and the long and short sounds of some of the vowels, which are not always practically observed in pronouncing them, have not been insisted upon in correcting the proof sheets. The vernacular terms have been for the most part, spelt as they are written in standard Bengali and Hindi dictionaries. The spoken language varies so much in different parts of the country and among different classes of people, that it would be hopeless to attempt any thing like a complete vocabulary of names as pronounced by the people of the different provinces of which Hindi and Bengali are the vernaculars.

One great peculiarity of the Sanskrit language consists in its having numerous synonyms for material objects, and medicines form no exception to this rule. Almost all well known plants have several synonyms, and some have as many as twenty to forty names, gulancha has thirty-nine, chebulic myrobalan thirty, the lotus thirty eight, with half as many for its varieties, and so on. Native physicians learn these synonyms by rote, just as they do their grammars and dictionaries. Sanskrit medical works, like most other works in the language, are composed in rhyme, and any one of the numerous synonyms of a drug may be used to designate it in

prescriptions containing the article according to the fancy of the writer and the necessities of metrical composition. Many names again are common to numerous articles, and it is often impossible without the help of annotations to make out which drug is meant by a particular term. In the absence of any scientific description of plants, however, these synonyms sometimes serve to describe their prominent characters, and thus prove an aid to their identification. In the glossary appended to this work, I have not attempted to give a complete list of all these synonyms. As a general rule I have given only the principal or current name of each plant. Some plants have however more than one well-known and currently used names. In such instances I have given those names in the first column only, with a reference to the synonyms under which their vernacular and Sanskrit equivalents have been given.

I avail myself of this opportunity, publicly to tender my cordial thanks to those gentlemen who have assisted me in carrying this work through the press. To Dr George King, Superintendent of the Royal Botanic Gardens, I feel myself particularly beholden. He has helped me most materially in a variety of ways and has thereby enabled me to avoid many errors and mistakes. On many occasions he has spent hours in identifying various drugs for me, and he has revised nearly all the last proofs, before the sheets were printed. The recent names of plants in the glossary are entirely due to his pen, and they entailed on him considerable and tedious labour. Without these names I should have been obliged to content myself with the old names, gleaned from the works of Roxburgh and others, which are now only tolerated as synonyms, and which would have seriously impaired the usefulness of the glossary as a work of reference. I am indebted to him, likewise, for his permission to allow Babu Prasanna Kumar Sen, Overseer of the Royal Botanic Gardens, to assist me in my enquiries, and this has enabled me to solve many a doubtful point in the translation of the scientific names of plants into the vernacular. During the absence of Dr King from the Gardens, Mr S Kurz cordially helped me whenever I had occasion to seek his aid in identifying native medicines.

Dr Norman Chevers kindly corrected for me some of the forms and put me in the proper way of doing this work. Rai Kanai L

Dey Bahadur has, at considerable sacrifice of his valuable time, analyzed the mineral substances and preparations, the chemical composition of which has been described in the first part of this work. Most of these preparations have now for the first time been analyzed by him. To Dr Rajendralala Mitra, I am indebted for valuable advice regarding the plan of getting up this work, and for explanations of some obscure questions regarding the history of of Indian medical works.

To Kaviraj Binod Lal Sen, my grateful acknowledgments are due for the very liberal manner in which he has furnished me with lists of medicines generally used in practice, supplied me with specimens of native medicines, and practically shewn and explained to me the processes by which metallic medicines are prepared in the dispensary under his charge. His cordial assistance has enabled me to bring out this work with greater confidence than if I had had to depend upon my knowledge of Sanskrit books alone.

Kaviraj Brajendra Kumar Sen Gupta, son of the late learned Hīradhan Sen Gupta, the leading native physician of his time in Calcutta, and latterly physician to his Highness the Maharaja of Kashmere, has interpreted for me the meanings of many obscure passages in Sanskrit, furnished me with specimens of drugs from his dispensary, supplied me with a list of the preparations ordinarily used by him in practice, and cordially rendered me such other assistance as I had occasion to seek from him.

THE MATERIA MEDICA OF THE HINDUS.

INTRODUCTION

MATERIAL OBJECTS AND CLASSIFICATION OF MEDICINES

CHARAKA divides material objects into three classes, namely, mineral, animal and vegetable. Minerals consist of gold, silver and other metals, diamond, emerald and other gems, realgar, orpiment and other ores, and the various sorts of earths. Vegetables are divided into four classes, namely, *Vanaspati*, *Vriksha*, *Vruddh* and *Oshadhi*. Those plants which produce fruits, without first showing their flowers, are called *Vanaspati*. Plants which produce fruits from flowers, which are known by their flowers and fruits, and which wave small branches from their trunks, are called *Vriksha*. Plants which during their growth are supported by other plants, are called *Vruddh*, *Pratánavatya* or *Valli*. Lastly, those grasses, etc., which die after maturing their fruits, are called *Oshadhi*. Animals are divided into four classes, namely, *Janíyuga* or mammalia, *Andaja* or oviparous, *Svedaja* or those produced from animal excretions, as parasites, etc., and *Udbhija* or those produced under ground or from vegetable matter, as for example *Indragopa*, a sort of red insect.

All parts of vegetables may be used in medicine, namely,—

Root, as of *Chitraka* (*Plumbago Zeylanica*)

Under ground stem, as of *Surana* (*Amorphophallus campanulatus*)

Leaves, as of *Vásaka* (*Justicia Adhatoda*)

Fruits, as the three Myrobalans

Flowers, as of *Dhátaki* (*Woodfordia floribunda*)

Extract, as Catechu, Opium, etc

Bark, as of *Kunchi* (*Holarrhena antidysenterica*).

Wood, as of *Dávi* (*Berberis Asiatica* or *aristata*).

Gum, as Myrrh, Assafoetida, etc

Sometimes the entire plant is used as *Kantakáru* (*Solanum Xanthocarpum*)

The skin, hair, wool, nails, horns, hoofs, milk, bile, honey, fat, marrow, blood, flesh, urine, fæces, semen, bones and nerves of animals are all used in medicine

Susiuta divides remedial agents into two classes, namely, *Párvha* or material and *Kálahrita* or effected by time, such as wind, sun-shine, shade, moon-light, darkness, heat, cold, rain, day, and night, changes of the moon, months and seasons of the year, etc These are all said to affect the humours of the body, and, through them, the diseases caused by their derangement The influence of these agents, if properly regulated or availed of, sometimes cures diseases, without the aid of material remedies

Sanskrit writers do not agree in the mode in which they classify medicines when describing their properties. Charaka divides medicines into fifty classes, according to their supposed action on the different organs of the system, or on particular symptoms of disease These classes are as follows —

- 1 जीवनीय *Jívaníya*—Medicines which prolong life
- 2 वृद्धणीय *Vṛhṇaníya*—Medicines which promote nutrition and increase corpulency
- 3 लेखनीय *Lekháníya*—Medicines which thin the tissues, or reduce corpulency
- 4 भेदनीय *Bhedaníya*—Promote excretions
- 5 सन्धानीय *Sandháníya*—Promote the union of fractured or divided parts. [power
- 6 दीपनीय *Dípaníya*—Increase the appetite and digestive
- 7 बल्य *Balya*—Increase strength Tonics
- 8 वर्य *Varíya*—Improve the complexion
- 9 कण्ठ *Kanṭha*—Improve the voice, or cure hoarseness
- 10 हृद्य *Hṛdíya*—Promote cheerfulness or relish
- 11 तृप्तिघ्न *Tṛptighna*—Remove a supposed phlegm which causes a sense of satiety
- 2 अशोधि *Arsoghna*—Cure piles
- 3 कुष्ठघ्न *Kusṭhaghna*—Cure skin diseases,
- कण्डूघ्न *Kandūghna*—Cure pruritus

- 15 कृमिघ्न *Kṛmighna*—Cure worms
- 16 विषघ्न *Vishaghna*—Act as antidotes to poisons
- 17 स्तन्यजनन *Stanyajanana*—Promote secretion of milk
- 18 स्तन्यशीघ्रन *Stanyasodhana*—Improve the quality of milk
- 19 शुक्रजनन *Sukrajanana*—Increase the secretion of semen.
- 20 शुक्रशीघ्रन *Sukrasodhana*—Purify the semen
- 21 स्नेहोपयोग *Snehopayoga*—Emollients
- 22 स्वेदोपयोग *Svedopayoga*—Diaphoretics.
- 23 वमनीपयोग *Vamanopayoga*—Emetics
- 24 विरेचनीपयोग *Virechanopayoga*—Purgatives
- 25 आस्थापनीपयोग *Asthāpanopayoga*—Medicines for use in
enemas
- 26 अनुवासनीपयोग *Anuvāsānopayoga*—Medicines for oily enemas
- 27 शिरोविरेचनीपयोग *Śirovirechanopayoga*—Promote discharge
from the nose
- 28 कर्हनिग्रहण *Chhardanigrahaṇa*—Relieve vomiting.
- 29 तृष्णानिग्रहण *Tṛṣṇānigrahaṇa*—Relieve thirst
- 30 हिक्कानिग्रहण *Hikkānigrahaṇa*—Relieve hiccup
31. पुरीषसंग्रहणीय *Purishasangrahanīya*—Render the fæces con-
sistent [fæces
- 32 पुरीषविरजनीय *Purishavirajanīya*—Alter the colour of the
- 33 मूत्रसंग्रहणीय *Mutrasangrahanīya*—Reduce secretion of urine
- 34 मूत्रविरजनीय *Mutravirajanīya*—Alter colour of urine
- 35 मूत्रविरेचनीय *Mutravirechanīya*—Increase secretion of urine
- 36 काशहर *Kāśahara*—Cure cough
37. श्वासहर *Śvāsahara*—Cure difficult breathing or asthma
- 38 शोथहर *Sothahara*—Cure anasarca or swellings
- 39 ज्वरहर *Jvarahara*—Febrifuges
- 40 त्रसहर *Sramahara*—Remove fatigue
- 41 दाहप्रशमन *Dāhaprasamana*—Relieve burning or heat of body
- 42 शीतप्रशमन *Śitaprasamana*—Relieve sense of coldness
- 43 ऊदचप्रशमन *Udarddhaprasamana*—Cure urticaria. [limb
- 44 अङ्गमर्दप्रशमन *Angamardhaprasamana*—Relieve pain in
- 45 शूलप्रशमन *Sulaprasamana*—Cure pain in the bowels
- 46, शोणितस्थापन *Śonitasthāpana*—Styptics
- 47 वेदनास्थापन *Vedanāsthāpana*—Anodynes
- 48 रुद्धास्थापन *Saujñāsthāpana*—Restore consciousness,

49 प्रजास्थापन *Prajásthápana*—Cure sterility.

50 वय स्थापन *Vayahsthápana*—Prevent the effects of age

Susruta divides medicines into thirty seven classes, named after the first article of each class. The medicines included in each class have certain common properties, such as acidity, sweetness, astringency, etc., are often used in combination, and can be substituted for one another. This has the advantage of bringing analogous substances under one head, but numerous medicines come to be written under two or more heads. The *Nighantu* and some other works on the properties of medicines adopt the following classification in describing them —1 Strongly scented substances 2 Moderately scented substances 3. Weak scented substances 4 Extracts 5 Precious stones 6 Metals 7 Sweet plants 8 Acid plants 9 Potherbs 10 Bitter herbs 11 Flower plants 12 Fruit-bearing creepers 13 Root-stocks 14 Large trees 15 Middle sized trees 16 Small trees or shrubs 17 Creepers 18 Corn and Pulses. 19 Cooked food 20 Different sorts of water 21 Fluids as milk, honey, etc 22 Necessaries of life, such as baths, dress, ornaments, etc 23 The influence of the elements and imponderables, etc.

THE PROPERTIES OF MATERIAL OBJECTS AND THE ACTION OF MEDICINES ON THE HUMAN SYSTEM

MATERIAL objects, according to Sanskrit writers, have six sorts of tastes, twenty sorts of qualities, and two sorts of forces in them. The six tastes are sweet, acid, salt, bitter, acid and astringent. The twenty qualities of objects are as follows —Heavy, light, soft, dull, oily, consistent, watery, hot, fixed, sharp, tremulous, delicate, demulcent, smooth, harsh, transparent, hard, pungent, coarse and cold. The two forces are heating and cooling. All substances are supposed, after digestion, to assume one or other of three sorts of properties: thus sweets and salts are supposed to be turned after digestion into sweets, acids, into acids, and bitters, acids and astringents, into acids. Besides the above properties, each medicine has a special action of its own. It is that quality which gives itself superior to the usual properties of taste, force, and that of assimilation, as for example, *Danti* (*Baliospermium Montanum*), which though similar in properties to *Chitraka* (*Plumbago*

Zeylanica), yet, unlike the latter, acts as a purgative. This result is owing to its special action, the nature or ultimate cause of which is beyond the comprehension of the Gods themselves.

The various actions of medicines on the human system are described in considerable detail. All diseases being supposed to be caused by derangement of the humours, namely, wind, bile, phlegm, blood, etc., all medicines are likewise supposed to have some influence upon one or other of these humours. Susruta divides medicines into two classes, with reference to their action on the humours, namely, *Sansamana* and *Sansodhana*. *Sansamana* are medicines which rectify the deranged state of the humours and calm their excited action, without promoting the excretions. *Sansodhana* are medicines which remove collections of bad humours and discharge them by the excretions. The first is subdivided into three orders, namely, medicines influencing wind, bile, and phlegm, respectively. The second includes emetics, purgatives, eructives and other depuratives. Sārangadhara and other writers describe the actions of medicines in further detail and mention the following classes —

दीपन *Dīpana* are medicines which promote appetite, but do not aid in digesting undigested food.

पाचन *Pāchana* are medicines which assist in digesting undigested food, but do not increase the appetite. Some medicines have both these properties, that is, they are appetizers as well as digestives.

अनुलोमन *Anulomana* are medicines which digest the humours and set them free, that is, promote excretions and favour their discharge.

विरिचक *Virechaka* or purgatives are described under three heads, namely, असन *Śansana*, भेदन *Bhedana*, and रीचक *Rechaka*. Those medicines which hurry the chyle or materials for digestion, without allowing them to be properly digested, are called *Śansana*, as for example the pulp of *Cassia fistula*. Those medicines which set free scybala and other contents of the intestines, and discharge them from the bowels, without producing watery stools, are called *Bhedana*, as for example *Katuki* (*Pricklypear*). Those medicines which cause the discharge of the digested or undigested contents of

intestines in a liquid form, are called *Rechala*, as for example, *Tivrit* (*Ipomœa Turpethum*) These last again are subdivided into three orders, namely, *mridu* or mild, *madhyama* or intermediate, and *krura* or drastic

वसन *Vannana* or emetics are medicines which cause emesis of bile, mucus and other contents of the stomach

क्षेदन *Chhedana* are medicines which remove by force as it were and discharge from the body adherent phlegm or other humours Emetics, expectorants, cathartics, caustics etc would probably come under this head Black pepper and alkaline ashes are given as examples of this class of medicines

लोखन *Lekhana* or attenuants remove bad humours and altered constituents of the body by thinning them gradually and thus clearing the system of them Warm water, honey, barley, etc. are examples of this class

Medicines which promote the secretion of perspiration, urine, and milk are called, respectively, श्वेदन *Svedana*, मूत्रल *Mutrala* and स्तन्यजनन *Stanyajanana*

प्रमाथि *Pramāthi* are medicines which facilitate the exit of collected secretions from their tubes or receptacles, as for example *Vacha* (*Acorus Calamus*)

ग्राहि *Grāhi* or inspissants are medicines which from their stomachic, digestive and heating qualities, dry the fluids of the body

स्तम्भन *Stambhana* or constipators are medicines which from their drying, astringent and cooling qualities, and from their easy digestibility, increase the air and retain the secretions, as for example *Indrayava* (seeds of *Holarrhena antidysenterica*)

अभिष्वन्दि *Abhishvandi* are substances which from their emollient qualities or heaviness, retain the secretions and cause heaviness and fulness of the body, as for example, *Dadhi* or curdled milk

रसायन *Rasāyana* or alternative tonics are medicines which prevent, or remove the effects of age, increase the vigour of healthy persons and cure the ailments of the sick

बल्य *Balya* or tonics are medicines which increase strength
विनहण *Vinhana* are medicines which promote nutrition and increase the bulk of the body

वाजीकरण *Vājīkaraṇa* or aphrodisiacs are medicines which increase the sexual power

विष *Visha* or poisons are said to be endowed with the following qualities, namely, अवायो *Vyavāyī*, that is affecting the entire system, as for example, opium and hemp सूक्ष्म *Sūkṣhma*, that is, penetrating into the minutest pores of the body विकारि *Vikāri*, that is drying the humours, depressing the system and causing relaxation of the joints, as for example betel-nuts चाग्नेय *Āgneya*, that is, heating or stimulant मदावह *Madāvaha*, that is depriving men of their senses and enveloping their minds in darkness as spirituous liquors Taken in large doses, poisons destroy life, but, judiciously used, they act as curatives and restore health, even in dangerous diseases

Nine active or violent poisons are mentioned by most writers, namely *vatsanābha*, *hāridra*, *saktu*, *pradīpana*, *saurāśtrika*, *sringi*, *kālakuta*, *halāhala*, and *brahmaputṛa* These cannot all be identified at present Most of them are apparently varieties of aconite, (see page 97), The following seven drugs are described, as minor poisons, viz, opium, *gunjā* (seeds of *Abius precatorius*), *datura*, roots of *Nerum odorum* (*haravṛā*), and *Gloriosa superba* (*lāngulī*) and the milky juices of *Calotropis gigantea* (*arka*) and *Euphorbia nervifolia* (*snuhi*) The mineral poisons mentioned in Susruta are *phenāsma bhasma* or white arsenic, and *haritāla* or orpiment Of animal poisons, the poison of the serpent is the only one used in medicine

WEIGHTS AND MEASURES

The scales of weights and measures used in ancient days differed in different parts of the country Separate scales are described by modern compilers, under the names of *Māgadhi*, *Kāṅga*, *Chāṇaka*, *Sausruta*, etc The number of *gunjās* making a tola varies in these scales from forty to ninety-six The scale of weights and measures in ordinary use in Bengal, at the present day, has the *gunjā*, (seed of *Abius precatorius*) for its lowest weight The *gunjā*, however, is divided into fractional parts by other seeds, the eighteen mustard seeds, four grains of paddy, three grains of bai

and two grains of wheat are respectively said to be equal to one *gunjá* गुञ्जा This scale is as follows —

- 6 *Gunjás* make one *áná*
- 12 *Gunjás* make one *máshá* माषा
- 8 *Máshás* or 16 *ánás* make one *tolá* तोलक.
- 8 *Tolás* make one *pala* पल
- 8 *Palas* or 64 *Tolás* make one *seer* शराव.
- 2 *Seers* make one *Prastha* प्रस्थ
- 8 *Seers* make one *ádhalá* आढक
- 32 *Seers* make one *drona* द्रोण
- 100 *Palas* or 12½ *seers* make one *Tulá* तुला

In the scale above described ninty-six *gunjás* make one *tola* It would seem, however, that in ancient days Susruta's scale of forty *gunjás* to a *tolá* was in general use, for the doses of powders, confections, decoctions, etc given in the older works, are considered monstrous for the present age, and much smaller doses are given in practice. Orthodox physicians explain the large doses by saying that they were intended for a superior race of men of ancient days The subject is involved in much obscurity and this is scarcely the place to discuss it thoroughly In giving the doses of medicines described in this work, I will state the quantities now prescribed by native physicians in current weights, hence they will differ from the Sanskrit texts from which the prescriptions will be translated

There is a peculiarity in fluid measures which must also be noticed in order to prevent misapprehension of the Sanskrit texts When a fluid article is ordered in measures of a *prastha* or two *seers* and upwards, twice the quantity mentioned should be taken Thus if in a preparation it is stated, take of solid paste of certain substances one seer, oil two seers, and water eight seers, the quantities actually taken are solid paste one seer, oil four seers and water sixteen seers In measures below two seers or in those indicated by *pala* such as eighty *palas*, sixty *palas* etc, the quantities are not doubled

The doses of medicines are not fixed They are regulated by the age, strength, and digestive power of the patient, the nature of the illness, the state of the viscera and humours, and lastly by the properties of individual drugs.

Supposing the full dose of a medicine for adults to be two *tolás*, the doses for children of different ages would be as follows — For infants a month old, one *gunjá*, and an additional *gunjá* for each additional month. For children a year old, the dose would be one *máshá* or twelve *gunjás*, and an additional *máshá* for every year, till the full dose of sixteen *máshás* or two *tolás* is reached at the sixteenth year. From sixteen to seventy the full dose should be used, after which it should be again gradually reduced. When infants are unable to take decoctions and other bulky medicines, their nurses are made to take them. Sometimes small quantities of medicines are applied to the nipples, and the infants made to suck them.

Medicines may be administered during four periods of the day, namely, sunrise, mid-day, evening and night. Sometimes they are administered frequently. Morning is regarded as the best time for administering such medicines as purgatives, emetics, decoctions and pills which are generally given once daily. When no specific direction is given regarding the time of administration, morning must be taken for granted. Very often one sort of medicine is given in the morning and another in the afternoon. Some medicines for dyspepsia are given before, along with, and after meals.

FORMS OF MEDICINES

चूर्ण *Churna* or powders are prepared by pounding dry substances in a mortar with a pestle and passing the powder through cloth.

सरस *Saras* or expressed juice is prepared by pounding fresh vegetables in a mortar, expressing the juice and straining it through cloth.

कल्क *Kalka* or paste is prepared by grinding dry or fresh vegetable substances on a stone with a muller, and then making a thin paste, with the addition of water when necessary.

काष *Krátha* or decoctions are, as a general rule, prepared by boiling one part of vegetable substances with sixteen parts of water, till the latter is reduced to one-fourth. The medicine should first be pounded small, then boiled over a slow fire, and

decoction strained through cloth When decoctions are prepared with dry substances, eight parts of water are recommended to be used Decoctions are administered with the addition of salt, honey, sugar, treacle, alkalies, clarified butter, oil, or some medicinal powders

फण्य *Phānta* or infusions are prepared by steeping one part of powdered herbs in eight parts of hot water, for twelve hours during the night They are administered in the same way as decoctions

श्लेष्मकाय *Ślakāshāya* or cold infusion is prepared by steeping one part of a drug in six of water for the night, and straining the fluid in the morning

पानीय *Pānīya* is a weak form of decoction prepared by boiling one part of medicinal substances in thirty-two of water till the latter is reduced to one-half This preparation is usually taken *ad libitum* for appeasing thirst or some such object.

प्रमथ्या *Pramathyā* is a sort of decoction in which the medicines are first reduced to a pulp and then boiled in eight parts of water till the latter is reduced to one-fourth It is administered with the addition of honey

मन्थ *Mantha* is an emulsion of medicines in fine powder with four parts of cold water

क्षीरपाक *Kshīrāpāka* or decoction in milk The proportions in this preparation, are one part of medicine, eight of milk and thirty-two of water. The materials are boiled together, till the water is evaporated and the milk alone remains, the decoction is then strained

यवागु *Yavāgu* Sometimes medicines are added to powdered rice, wheat, barley, etc., and boiled with water into a gruel which is taken as aliment The proportion of water in this preparation is six to one of solid materials This preparation is called *Kalka-sādhyā-yavāgu* or gruel made with medicinal paste, in contradistinction to another form called *Krāthā-sādhyā-yavāgu* or gruel made with a decoction of medicines, for which last see *Oryza sativa*.

अवलेह *Avaleha* or extract To prepare it, decoctions, after being strained, are again boiled down to the consistence of a thick protract This extract, when properly made, does not readily solve in water, can be drawn out into wires, and will receive

impressions of coins on its surface Extracts are administered with the addition of sugar, decoctions, or powders

वटिका *Vatikā* and गुडिका *Gudikā* or pills and boluses These are usually prepared by reducing a decoction of vegetable substances to a thick consistence and then adding some powders for making a pill-mass Sometimes pill-masses are made of powdered medicines with the addition of treacle or honey

मौदक *Modaka* are boluses prepared by adding powders to cold syrup and stirring them together till uniformly mixed No boiling is required in this preparation

खण्डपाक *Khandupāka* or confections These are made by adding to syrup medicines in fine powder and stirring them over the fire till intimately mixed and reduced to proper consistence. Honey is often subsequently added to confections. Syrup may be made with sugar and water or milk or the strained decoction of some medicinal substance Confections should be of the same consistence as extracts above described

भावना *Bhāvanā* or maceration of powders in fluids Powders, and especially mineral substances, are often soaked in various fluids, such as expressed juice of herbs, decoctions, etc., and then dried For this process the quantity of fluid added to the powder should be sufficient to cover it The mixture is then allowed to dry in the sun A single operation of this sort is completed in twenty-four hours, but the process is generally repeated from three to seven times, and often with a variety of fluids, so that the resulting mass combines in it the active principles of various drugs

पुटपाक *Putupāka* or roasting In this process vegetable drugs are reduced to a paste which is wrapped up in *jambu* or *vatapatia* (leaves of *Eugenia Jambolona* and *Ficus Bengalensis*), firmly tied with fibres of some sort, covered with a layer of clay from half to one inch in thickness and roasted in cowdung fire When the layer of clay assumes a brick-red colour on the surface, the roasting is known to be completed The ball should now be withdrawn from the fire and broken, and the juice of the roasted drug expressed and administered, with the addition of honey or some other adjuncts as may be directed Sometimes the roasted drug itself is given in the form of a powder or pill

सन्धानवर्गं *Sandhānavarga* or products of acetous fermentation.

काञ्जिक *Kāñjika* This is a sour liquid produced from the acetous fermentation of powdered paddy. Two seers of powdered *śus dhān* (paddy grown in rainy season), are steeped in eight seers of water and laid aside in an earthen pot for fifteen days and upwards, when the mixture undergoes acetous fermentation. The resulting fluid is called *Kāñjika* or *Dhānyāmla*, that is, the acid produced from paddy. *Kāñjika* is a clear transparent fluid with an acid taste and vinous smell. It is cooling, refrigerent, and useful as a drink in fever, burning of the body, etc. It is sometimes applied externally upon the principle of wet-sheet packing, cloth steeped in the fluid being wrapped round the body for relief of high fever and heat of body. It is also used as a vehicle for other medicines and for preparing decoctions, oils, etc. Other grains besides paddy are sometimes used for acetous fermentation. If mustard or the seeds of *Raphanus sativus* (*mulaka*) are added to paddy, the resulting fluid is called *Sintākrī*. If the husked grains of barley are boiled and steeped in water, the resulting acid liquor is called *Sauvva*. When the husks of fried *māśa-lalāya* (pulse of *Phaseolus Roxburghii*) and barley are boiled together for acetous fermentation, the acid is called *Tushāmru*. *Ārṇḍila* is a sour gruel made from fermentation of boiled rice. A mixture called *Sukta* or *Chukra* is thus prepared.—Take of treacle one part, honey two parts, *kāñjika* made as above described, four parts, whey eight parts, mix together in a clean earthen pot, and bury the pot in a heap of paddy for three days. The properties of these preparations are similar, they being regarded as cooling, refrigerent, diuretic, and useful in nervous diseases, rheumatism, dyspepsia, indigestion, urinary diseases, intoxication from spirituous drinks, etc. What is ordinarily spoken of as congee water in English, is a decoction of rice and not the *kāñjika* of Sanskrit Materia Medica.

द्रावक *Drāvaka* or distilled mineral acids. Several formulæ are given in different works for the preparation of mineral acids. A number of mineral substances or salts are heated in a retort and the distilled fluid collected in a glass receiver. The test of acids is said to be then property of dissolving a cowrie or shell.

thrown into them The following are two examples of the compositions used for preparing mineral acids

सल्फद्रावक *Sulphadrāvaka* Take of alum, chloride of ammonium, borax, sulphide of antimony, impure carbonates of potash and soda called *yavaśhā'a* and *svaryikāśhā'a*, and rock salt, each eight tolās, nitre six tolās, oil of turpentine four tolās, powder, mix and rub them together repeatedly with lemon juice and dry Introduce the mixture into the receptacle of a distilling apparatus, and distill over the fire The dose of the acid thus distilled is two drops It should be taken with six grains of long pepper One week's use of this medicine is said to cure spleen disease, dyspepsia, etc

भङ्गद्रवक *Sanhadrāvaka* For this preparation take of sulphate of iron thirty-two tolās, alum and rock salt sixteen tolās each, nitre one hundred and twenty-eight tolās, powder, mix and distill the mixture from a glass retort The dose of this acid is said to be twelve minims The tongue should be anointed with clarified butter before using this medicine It should not also touch the teeth

आसवारिष्ट *Asava* and *arishta* or medicated spirituous liquors. These are prepared from honey and treacle, with the addition of various medicinal substances They are all steeped in water and laid aside in earthen jars for vinous fermentation The proportion of the different ingredients, as a general rule, is as follows — Water thirty-two seers, treacle twelve seers and a half, honey six seers and a quarter, medicinal substances one seer and a quarter, in powder or decoction When raw vegetables are used for fermentation, the resulting fluid is called *A'sava* When the decoction of drugs only is added, the fermented liquor is called *Arishta* These preparations combine the properties of spirituous drinks and those of the drugs used in preparing them They are heating, stimulant, easily digested and stomachic The preparation called *Dāśhā'ishta* is made with honey, sugar and decoction of raisins, with the addition of a few aromatics, (see *Vitis vinifera*) Its action must be analogous to that of wines It is used as a stimulant in exhausting diseases

घृत तैलशोदिधि Medicated oils and *Ghritas* These are decoctions of vegetable drugs in oil or *ghrita* (clarified butter) a prominent feature of native practice. They are 1

great varieties and are extensively used in almost all sorts of diseases. The *ghrita*s are chiefly used internally, and the oils are rubbed on the body. They are prepared by boiling vegetable drugs in *ghrita* or oil, with the addition of water or other fluids such as *Kánika*, milk or a decoction of drugs, etc. As a general rule, the proportion of the different ingredients used is as follows — Medicinal substances, in form of paste, one part, *ghrita* or oil four parts, water or other menstruum sixteen parts. When the fluids used are thick, such as decoctions or the expressed juice of vegetables, the proportion of solid paste is reduced from one-fourth to one-sixth and one-eighth respectively of the oil or *ghrita*. Sometimes no solid paste is used at all.

If more than one variety of fluid is ordered, then up to four sorts the usual proportion of four of fluid to one of *ghrita* or oil is observed, and these are boiled separately with each fluid, but, when the number of fluids exceeds four, each of the fluids ordered is taken in quantity equal to the oil or *ghrita*, and the whole boiled together.

हृत्पाक *Ghratapāka* or preparation of medicated *ghrita*. The *ghrita* or clarified butter is first of all heated on a fire so as to deprive it of any water that may be mixed with it. A little turmeric juice is then added to purify it, as it is said, but the object, I suppose, must be to colour it. *Ghruta* thus purified is placed on a fire in an earthen, copper, or iron pan and melted with a gentle heat. Then the medicinal paste and fluids to be used are added, and the whole boiled together till the watery parts are all evaporated and the *ghrita* is free from froth. It is then strained through cloth and preserved for use. *Ghruta* thus prepared should be imbued with the colour, taste and odour of the medicines with which it has been boiled. It is recommended that the preparation of *ghrita* by boiling be not completed in one day, and that the medicines be allowed to remain in contact with the butter for some time so that their active principles may be thoroughly extracted. The boiling process is carried on to three degrees, called, respectively, *mṛdu*, *madhyama* and *kṣara pāka*. In the first, the boiled paste is somewhat soft, in the second, it is dry and just soft enough to be made into pills with the fingers. In the third form, it is turned hard and

dry. The intermediate form is preferred for internal administration and injection into the rectum, while the over-boiled form is used for external application. The under-boiled form is said to be suitable for use as snuff.

नैऋपाक *Tailapāka* or medicated oils. In preparing these sesamum oil should be used unless otherwise specified. Sesamum oil, before being boiled with medicinal substances is coloured and purified as follows—First of all it is heated to deprive it of any water that may be mixed with it, then the following substances are steeped in it for twenty-four hours, viz., madder one sixteenth part in weight of the oil, turmeric, wood of *Symplocos racemosa* (*lodhā*), tubers of *Cyperus rotundus* (*mustaka*), a bark called *nalikā*, the three myrobalans, root of *Pavonia odorāta* (*bālā*) and the tender shoots of *Pandanus odoratissimus* (*ketaki*), each one sixty fourth part in weight of the oil. These ingredients in fine powder should be soaked in the oil, with the addition of an equal quantity of water for a day. The mixture should then be boiled till the water is evaporated, and finally strained. To the oil thus prepared, medicinal substances, in the form of paste, decoction, etc., are added in the same proportions as for the preparation of *ghritapāka*. They are then boiled together till the watery parts are all evaporated. When cool, the oil is strained through cloth so as to separate the solid particles. Some medicinal oils, and especially those used in the treatment of nervous diseases, rheumatism, etc., are subjected to a third process of boiling with various aromatic and fragrant substances. This is called the *Gandha pāka* or boiling for rendering the oil fragrant. The following substances, or as many of them as are available, are used for scenting medicated oils, namely, cardamoms, cinnamon, cloves, fenugreek seeds, saffron, leaves of *Cinnamomum Tamala*, white sandal wood, aloes wood, *jatāmansi* root, *Curcuma Zedoaria* (*sati*), *Cyperus rotundus* (*mustaka*), *kakkola* (an aromatic seed,) resin of *Pinus longifolius* (*gandharvājā*), storax, long pepper root, root of *Andropogon muricatus* (*usūa*), *nakhi* (*Unguis odoratus*),* pouch of civet cat (*khattāsi*), camphor, musk,

* This *nakhi* according to Rumphius who describes ten kinds of the odiferous ones which serve as the basis of the principal perfumes in the Indian lands, (Herb. Amb. ii c 17) is the operculum or lid of the shells of *Purpura* and *Murex*. This being flat and something like a nail explains the origin of name—*Royle's Antiquity of Hindu Medicine*, page 144.

Permelia perlata (saileya), root of *Aplotaxis auriculata* (kushla), seeds of *Abelmoschus moschatus* (latākastur), etc

For four seers of oil, one tola of each of the above ingredients should be taken, with the exception of camphor which should be four tolas. These ingredients, with the exceptions noticed below, are reduced to a paste with water and added to the oil, which is then boiled with an equal quantity of water till the latter is evaporated, and lastly strained. Camphor, musk, storax and the substance called *nakh* should be added after the process of boiling is finished, and the oil strained. Oils for rheumatism and nervous diseases, are sometimes rendered fragrant by the addition of camphor alone.

Castor oil and mustard oil are sometimes used in the preparation of medicated oils. The proportions of oil, medicinal substances and fluids are the same as with sesamum oil, but the preliminary preparation of these oils is different. Mustard oil is purified by being boiled with the following ingredients, namely, emblic myrobalan, turmeric, tubers of *Cyperus rotundus* (*mustaka*), root-bark of *Ægle Marmelos* (*vilva*), pomegranate bark, flowers of *Mesua ferrea* (*nāgakesara*), *Nigella* seeds, root of *Pavonia odorata* (*bālā*), the bark called *nakhā*, and belleric myrobalan, two tolas each, and madder sixteen tolas, for four seers of oil. These should be boiled together with sixteen seers of water, till the latter is all evaporated, and the oil should then be strained. It is now fit for being boiled with medicinal substances, the process for which is the same as for sesamum oil above described.

For purifying castor oil, the following ingredients are used, namely, madder, tubers of *Cyperus rotundus* (*mustaka*), coriander, the three myrobals, leaves of *Sesbania aculeata* (*varjyanti*), *Pavonia odorata* (*hrivera*), wild dates, tender red buds of *Ficus Bengalensis* (*vatasunga*), turmeric, wood of *Berberis Asiatica* (*dāruharidā*), the bark called *nakhā*, ginger and the shoots of *Pandanus odoratissimus* (*ketaki*), each half a tola for four seers of oil. Castor oil should be boiled with equal parts of whey and *kānjika* (fermented paddy water) along with the above ingredients.*

* The processes above described, for the preliminary purification of oils before being boiled with medicinal substances are not adopted by the physicians of Upper India. They are not mentioned by the ancient writers and are the inventions of recent Bengali authors.

ON THE DIFFERENT MODES IN WHICH MEDICINES ARE APPLIED

BESIDES being taken internally, medicines are applied in various other ways, such as by injections into the rectum, urethra and female organs, application to the nose, to the mouth, to the eyes, to the skin in the shape of plasters, ointments, oils and fumigations, and to the lungs by inhalation

वस्तिकर्म *Vastikarma* or injections into the rectum, were thrown in by means of a tube with a membranous bag tied to its end. The bag was recommended to be made of the bladder of some animal, such as bull, goat, etc. It was filled with the fluid to be injected and tied to one end of a tube, about eight inches long and with a tapering rounded extremity for introduction into the rectum. Injections into the urethra and vagina were thrown in by similar contrivances, the tubes being adapted in length and thickness to the passages for which they were intended

फलवर्ची *Phalavarti* or suppositories were recommended to be made of the size of the patient's thumb. They were smeared with clarified butter and introduced into the rectum. The following is an example of a suppository. Take of assafoetida and rock-salt equal parts and make a suppository with honey, for use in tympanitis

नस्य *Nasya* or the application of medicated substances to the nose, forms a prominent feature of native therapeutics. Two primary classes of medicines for this organ are recognized, namely *Snovnechana* or medicines causing a flow of secretion from the nose and thus relieving cerebral congestion, and *Vinhana* or medicated oils applied to the nose with the object of cooling the head and relieving affections of the neck and chest. For clearing the head and promoting discharge from the nose, the expressed juice of pungent drugs is poured into the nose, drop by drop, or, powders are blown into the nostrils by means of a tube. The former process is called *Arapida* and the latter, *Pradhaman*. For cooling the head and relieving affections of the upper part of the body, various medicated oils are used. In one form snuff called *Pratimarsha*, two or three drops of medicated oil,

directed to be snuffed up the nostril till they reach the throat, when they should be expectorated and not swallowed. In another form of application called *Maṁṣa* about a drachm of oil is recommended to be gradually poured into each nostril from a spoon or shell.

कवल Kavala Liquids used as gargles are so called. Sometimes a mixture of liquid and solid substances or solid balls of medicine are taken into the mouth and retained in it till they bring on a discharge from the nose and eyes. This mode of application is called **गण्डुष Gandusha**. When powders or thick solutions are applied to the teeth and gums with the finger, the process of medicament is called **प्रतिसारण Pratīśāraṇa**.

शिरोवस्ति Sirovasti, etc or applications to the head. Oils or other fluids are applied to the head in four different ways. The first form called *Sirovasti*, consists in tying a piece of leather four and a half inches in breadth all round the head, luting its lower margin to the skin by a paste of pulse called *māśhakalāya* and then filling the cavity thus formed on the top of the head with lukewarm oil. The oil is directed to be retained till relief of pain, or till there is discharge from the eyes and nose. It should then be removed and the head washed with warm water. This sort of medication is said to be useful in severe headache and shaking of the head. In the second form, oil or other fluid is poured in a stream on the head. This is called *Parīśheka*. In the third form, called *Pichu*, cotton soaked in oil is applied to the scalp, and in the fourth, called *Aṅyanga*, the oil is simply rubbed on the head.

Applications of liquids and medicated oils to the ears are used in diseases of the head as well as of the ears. The external meatus is filled with the fluid which is allowed to remain in it from one to twenty minutes and is then withdrawn.

नेत्रकम्प Netrakarma or applications to the eyes receive various names according to the nature of the substances used and the manner in which they are applied. Pouring of drops into the eyes is called *A'shotana*. A poultice enclosed within a piece of cloth and applied over the lids is called *Pinda*. A paste applied to the lids is called *Vidālaka*. Medicines applied to the margin of the lids to the conjunctiva with the finger or a metallic probe are called *Īṣana*. These last may be in the shape of powder or liquid or they

may be made into sticks or pills which are rubbed with water before use. The probe for applying medicines to the margin of the lids should be six inches long with a rounded bulbous end. It may be made of gold, silver, copper, iron or stone. For habitual use of collyria a lead probe is preferred. When medicines are applied not only to the lids but also to the conjunctiva up to the margin of the cornea, the finger is recommended to be used, as it is soft and safe.

Applications to the skin. These consist of *ghritas*, oils, plasters, poultices, baths and hot applications for inducing perspiration. Medicated *ghritas* and oils have been already described. They are for the most part rubbed all over the body, except those intended for local ailments. Plasters called प्रलेप *Pralepa* are applied moist and cold. प्रदेह *Pradeha* or poultices are applied moist and hot. They are also thicker than plasters.

स्वेदन *Svedana* or application of heat to the skin for inducing perspiration is carried out in four different ways, namely —

1 **तापस्वेद *Tāpasveda*** or the application of dry heat by means of heated plates, bricks, sand, cloth or the palm of the hand only. These are recommended to be heated by catechu-wood fire.

2 **उष्णस्वेद *Ushmasveda*** or the application of hot steam. This is effected in various ways. The part to be heated is covered with wet cloth. Bricks, stones or iron plates are made red hot and sprinkled over with *lāngūla* or some decoction, and are then applied to the part to be heated, or an earthen pot with a small opening in the side is filled with hot water or decoction of some drugs, a tube is adjusted to the hole in the pot and the steam is applied to the covered body through it. A third method consists in heating the ground by burning catechu-wood over it, and after removing the fire sprinkling some decoction over the spot and making a bed of castor oil leaves on it. The patient is to lie on this bed and cover himself with a blanket. Or the ground may be covered with a thick layer of boiled pulse such as *māshakalāya* and a bed made over it for the patient.

3 **उपनाहस्वेद *Upandhasveda*** This means the application of heat by hot medicinal substances in the form of decoctions, pastes or plasters, or of fomentation by cloth wrung out of hot fluid.

or heat may be applied by enclosing hot medicinal substances or pastes within a cloth bag and applying the latter to the skin

4 द्रवस्वेद *Dravasveda* This means the hot hip-bath and hot bath with warm water or decoctions. Milk, broth, oil *lāṇyika* etc, may also be used for baths. The patient should sit in a tub with the fluid up to his navel, and which should also be poured over his body from above the shoulders, so as to bathe him thoroughly. The tub should be made of wood, silver, copper or iron, of square form and twenty-six fingers in measurement in all directions, that is in height, length and breadth. After the application of heat, the patient should take a hot bath, eat light food and keep himself covered in bed. If too much heat has been applied, and the patient suffers from pain in the joints, thirst, langour or giddiness, then he should be treated by cooling applications. The region of the heart, scrotum and eyes should be heated with great care and to a mild degree only.

धूमपान *Dhumapāna* or inhalations. Tapers or pastilles made of medicinal substances are set fire to, and their fumes inhaled through a tube by the mouth or nose. Pastilles for inhalation are thus prepared: a reed, half a cubit in length, is smeared or laid over with a paste of the drugs to be used, to two-thirds of its extent and is dried in the shade. When dry, the reed is withdrawn from the paste, leaving it in the form of a hollow tube. This is smeared with clarified butter and lighted. The lighted extremity is introduced into one end of the inhaling tube and the fumes drawn in by the other end through the mouth or nose, as the case may be, and emitted again through the mouth. In affections of the throat and chest, inhalation through the mouth is recommended, while in diseases of the head, eyes or nose, the fumes are drawn in through the nose. The tube for inhalation may be metallic or made of wood or ivory. Its length varies from two cubits to half a cubit, and its calibre should be sufficient to allow a large pea to pass through. The shorter tubes are used in administering expectorant and emetic fumes. Inhalations are useful in cough, asthma, catarrh, pain in the neck, head, etc. They may be used for soothing the air passages, for promoting discharge from them, for the relief of cough, or for checking vomiting. Another form of inhalation, called *Samana*,

is recommended to be used daily after washing the face, bathing, breakfast, etc. The pastille for this was made of cardamoms and other aromatic substances. This sort of smoking is not seen in the present day. Probably it was in vogue before the introduction of tobacco and has been displaced by the latter.

धूपन *Dhupana* or fumigations were employed for ulcers and skin diseases. The pastilles for these are made as for inhalation. They are lighted and placed inside two earthen pots, placed face to face. A hole is made in the upper pot and a tube adjusted to it. The free or open end of the tube is now directed to the affected part and the fumes allowed to spread over it. Incenses and tapers composed of various medicinal substances are also burnt in rooms occupied by the sick, for removing unpleasant smells and supposed evil spirits.

चारकचर्म *Kshárákarma* or caustic applications. The ancient physicians of India, like their modern representatives, preferred opening abscesses by caustics, to incising them with the lancet. Hence caustics were described as superior to the lancet, inasmuch as, in addition to opening abscesses, they purified them by removing the derangement of the humours. The ashes of the following plants were used for the preparation of caustics, namely —

पाटला *Pátala* — *Stereospermum suaveolens*.

कुटज *Kutaja* — *Holarrhena antidysenterica*

पलाश *Palāsa* — *Butea frondosa*

अश्वकर्ण *Asvakarna*. — *Shorea robusta*

पारिभद्र *Páribhadrā* — *Erythrina Indica*

विभित्तक *Vibhittaka* — *Terminalia Belleirica*

आरग्वध *Áragvadhā* — *Cassia fistula*

लोध्र *Lodhra* — *Symplocos racemosa*

अर्क *Arka*. — *Calotropis gigantea*

सुहि *Snuhi* — *Euphorbia nervifolia*

अपामार्ग *Apámarga* — *Achyranthes aspera*.

करञ्ज *Karanja*. — *Pongamia glabra*

वामक *Vásaka* — *Justicia Adhatoda*

कदलि *Kadali* — *Musa sapientum*

चित्रक *Chitraka* — *Plumbago Zeylanica*

पूतिक *Putika*. — *Cæsalpina Bonducella*.

देवदारु *Devadāru* — *Cedrus Deodara*

आस्फोता *A'sphotā* — *Vallaris dichotoma*

करवीर *Karavira* — *Nerium odorum*

सप्तपर्णि *Saptaparni* — *Alstonia scholaris*

गम्भारि *Gambhāri* — *Gmelina arborea*

गुञ्जा *Gunjā* — *Abrus precatorius*

कोषातकी *Koshātaki* — *Luffa pentandra*

The roots, stems and leaves of these plants or of such of them as are available, are cut into pieces and burnt in a pit. The ashes are then collected and boiled in six times their weight of water till the solution becomes transparent, red, pungent and soapy to the feel. It should then be strained and again put on fire and the following substances added, namely, ashes of *Euphorbia nervifolia* (*snuhu*), and the burnt powders of bivalve and conch shells. The mixture should be constantly stirred and boiled till it is of a thick consistence. The proportion of shell-lime added varies from one fourth to one-eighth or one sixteenth part of the solution. Caustics of three strengths are thus obtained. Sometimes orpiment and realgar are added to increase their strength.

The part where the caustic is to be applied, should first be cleaned and rubbed. The caustic should then be applied with a probe. It should be allowed to remain in contact with the skin for such time as is occupied in uttering a hundred words and then removed. The skin becomes black from the application, when it is dressed with a paste of acids, clarified butter and honey. For hastening the removal of the slough, a paste or poultice composed of sesamum seeds, liquorice root, lemon juice and *kāñjika* should be applied. Caustics are applied to external piles, sinuses, fistulæ in ano, abscesses, warts, tumours, leprous patches, etc.

THE MATERIA MEDICA OF THE HINDUS PART I

INORGANIC MATERIA MEDICA

GENERAL REMARKS ON MINERAL MEDICINES

MINERAL or inorganic medicines are generally described under five heads, namely, *Rasa* or mercury which forms a class by itself, *Upanasa* or metallic ores and earths, *Dhātu* or metals, *Lavana* or salts, and *Ratna* or precious stones. The metals used in Sanskrit medicine are mercury, gold, silver, copper, tin, zinc, lead, iron, bell-metal, and brass. The *Upanasas* used are sulphur, talc or mica, two sorts of iron pyrites called *Svarnamāṁśhrīka* and *Tāmāmāṁśhrīka*, loadstone, orpiment, realgar, sulphate of copper, sulphate of iron, cinnabar, minium or red lead, sulphuret of lead, calamine (*khaṁparā*), *Ślāṣātu* (a bituminous substance containing iron), alum, borax, chalk, calcined cowries and conch shells, *Gaṁṛīka* a sort of red mountain earth or ochre, *Kaṁkushta* a sort of mountain earth, *Saurāśṭra* a fragrant earth from Surat, sand, clay, etc.

The precious stones described are, 1 *Hṛīka*, diamond, 2 *Gāṁṛmat*, emerald, 3 *Pushpaṁḍaga*, topaz, 4 *Māṁṛīka*, ruby, 5 *Indraṁṛla*, sapphire, 6 *Gomeda*, a yellow gem of the colour of fat; 7 *Vaidurya*, a gem of a dark blue colour, the lapis lazuli, 8 *Maṁṛhṭika*, pearls, 9 *Vidrūma*, corals. Collectively they are called *Navaratna* or the nine gems. *Rājavarṭa*, an inferior kind of diamond from Virat, and *Varṭhrāṁṭa*, another inferior kind of diamond, are sometimes used instead of diamond.

Salts.—Of these the following are noticed by most writers, viz, *Sarṁdhava*, rock salt, *Sāṁbāra*, Sambar lake salt, *Sauvarchala*, sonchal salt, *Bit*, black salt, *Sāmudra*, sun-dried sea salt, commonly known as *Karkach*, *Audbhṛda*, a saline efflorescence on re-lands, *Pāṁsuja* or salt obtained from saline earth, *Yavaṁśhrīka*, impure carbonate of potash, *Sarṁṛhāṁśhrīka*, impure carbona

of soda, *Sarvalshāra*, mixed ashes of several plants, *Narasāra* chloride of ammonium, *Soraka*, nitrate of potash, and *Tankana*, borax. The term *Ushara* is applied to saline earth

Metals and metallic compounds are subjected to a so-called process of purification in order to get rid of their impurities or deleterious qualities. If used in an unpurified state, they are supposed to induce certain diseases or morbid symptoms. The metals, for the most part, are purified by repeatedly heating their plates and plunging them in the following fluids, namely, oil, whey, sour congee, cow's urine and the decoction of a pulse called *Lulattha* (*Dolichos uniflorus*). Another method of purification consists in soaking the plates of heated metals in the juice of the plantain-tree.

Metals and metallic compounds are reduced to powder by various processes. The operation is called *mārana*, which literally means killing or destruction of metallic character but practically a reduction to powder, either in the metallic state, or after conversion into an oxide or a sulphide. Various processes for the calcination of different metals are described in Sanskrit works on the subject. I will not burden these pages with a detailed account of these but shall only describe modes of preparation followed at the present day.

Although the Hindus had made some successful efforts in preparing a certain number of chemical compounds such as perchloride of mercury, sulphides of copper and silver, oxide of tin, some acids, alkalis, etc., yet their chemical operations were of a very rude and primitive character. The apparatus employed by them consisted of crucibles of different sorts, glass bottles and earthen pots arranged for sublimation of volatile compounds, retorts for distillation, sand and vapour baths, etc. The furnace for heating metals is usually a pit in the ground called गजपुट *Gajaputa*. It is made one and a quarter cubits in depth, length and breadth. This is filled with dried balls of cowdung. The metals or metallic compounds to be roasted are enclosed in a covered crucible and placed in the centre of the pit within the balls of cowdung, which are then set fire to and allowed to burn till consumed to ashes.

¹ सुपायन्त *Mushāyanti* or crucibles, are recommended to be made of husks of rice two parts, earth from ant-hills, iron rust, chalk and human hair cut into small bits, one part each. These are rubbed

together into a paste with goat-milk, and made into crucibles which are dried in the sun. Practically, however, goldsmith's crucibles or common earthen cups are used. The compounds to be roasted are placed in one crucible, this is covered with a second, and the two are luted together with clay.

वातुकायन. The sand-bath called *Vālukā yantra* is made by filling an earthen pot with sand and heating it over the fire. Metallic preparations sublimed within glass bottles are heated in sand-baths.

दीक्षावन. When medicines, tied in a piece of cloth or other material, are suspended and boiled in a pot of water, the apparatus is called *Dolā yantra*. The steam-bath called *Svedana yantra* is got up by covering the mouth of a pot of boiling water with a piece of cloth, placing the medicines to be heated by steam on this cloth, and then covering them with another pot.

For the sublimation of metals and metallic preparations, two sorts of apparatus are used. The first, called ऊर्द्धपातनयन्त्र *Urdhha-pātana yantra*, consists of two earthen pots placed one above the other with their rims luted together with clay. The lower pot containing the medicine is put on fire while the upper one is kept cool with wet rags. The sublimate is deposited in the interior of the upper pot. Sometimes the lower pot is covered with a concave dish and water poured into its hollow to keep it cool and changed as often as it gets hot. The second plan consists in placing the medicines to be sublimed in the bottom of a glass bottle which has been strengthened with layers of clay and cloth wrapped round it, and then exposing it to heat in a sand-bath. The sublimate is deposited in the neck of the bottle, whence it is extracted by breaking the latter.

तिर्यक्पातनयन्त्र *Tiryak pātana yantra*. This apparatus means the adjustment of retorts and receivers for sublimation and distillation. At the present day glass retorts of European manufacture are used. Country-made glass retorts are also available.

SULPHUR

Sans गन्धक Gandhaka

Four varieties of sulphur are mentioned by Sanskrit writers, namely, red, yellow, white and black. Of these the red and black are not now available. The yellow variety or vitreous sulphur is called *ámhá sár*, because its semi-transparent crystals resemble the translucent ripe fruits of the *ámálaki* (*Phyllanthus emblica*). It is preferred for internal use in combination with mercury. The white variety or ordinary roll sulphur is inferior to the yellow, and used for external application in skin diseases.

Sulphur is purified by being washed in milk. It is first dissolved in an iron ladle smeared with butter and then gradually poured into a basin of milk. When cool and solidified it is fit for use. Dose twelve to twenty-four grains with milk or other vehicle.

Sulphur is described as of bitter, astringent taste, with a peculiar strong smell. It increases bile, acts as a laxative and alterative, and is useful in skin diseases, rheumatism, consumption, enlarged spleen etc. In combination with mercury it is used in almost all diseases. The circumstance of its readily combining with and fixing metallic mercury, has led to its extensive use in combination with that metal.

In skin diseases sulphur is used both internally and externally. Internally it is given with milk or in the shape of a sulphurated butter, prepared from milk boiled with the addition of sulphur. The butter thus obtained is called *Gandha tarla*, and is taken internally, and applied externally, in skin diseases¹. Sulphur and *yavakshára* (an impure carbonate of potash), mixed with mustard oil, is applied in pityriasis psoriasis etc². Sulphur enters into the composition of a large number of applications for skin diseases, the following is an example.

1 गन्धकैश्च । चार्चमाने पयसि दत्त्वा गन्धकज रज । तज्जात दधिज सर्पिगन्धकैश्च
वदन्ति हि । गन्धकैश्च गलतकुष्ठं हन्ति खेपाच्च भक्षणात् ॥ सन्देहभञ्जनौ ।

2 गन्धपाषाणचूर्णेन यवचारण पेयितम् । शिष्मानाश्च व्रजत्याशु कटुतैलयुतेन वा ॥
चक्र. ।

*A'dityapāla taila*¹ Take of sesamum oil four seers, madder, the three myrobalsans, lac, turmeric, orpiment, realgar and sulphur equal parts, in all one seer. Mix and expose to the sun. This oil is useful in eczema, scabies etc.

In rheumatism it is used in combination with bdellium, as in the following, called *Sinhanāda guggulu*² Take of sulphur eight tolās, bdellium eight tolās, decoction of the three myrobalsans seventy-two tolās, castor oil thirty-two tolās, mix and boil together in an iron vessel till reduced to the consistence of a confection. Dose about one diachm twice daily. It is useful in chronic rheumatism, lameness, cough, asthma, and skin diseases

MERCURY

Sans पारद *Pārada* रस *Rasa*

Mercury, though not mentioned by Charaka* and Susruta, has in later days come to be regarded as the most important medicine in the Hindu Pharmacopœia. *Pārada* literally means that which protects, and mercury is so called because it protects mankind

1 आदित्यपाक तैलम् ॥ मल्लिष्टा विफला लाक्षा निशा शिलालग्न्यङ्गैः । चूर्णितै-
स्तेजसादित्यपाक पामाह्वर पद्मम् ॥ चक्र ।

2 सिन्धुनादगुग्गुलु । पलवय कपायस्य विफलाया सुचूर्णितम् । सौगन्धिक पल-
शैक कौशिकस्य पलन्तया ॥ कुडव चित्रतैलस्य सन्ध्यादाय यदन । पाचयेत् पाकविद्वैद्य
पात्रे लौहमये हटे ॥ हन्ति वात तथा पित्त श्लेष्मान खज्जपद्भुताम् । श्वास सुदुजय हन्ति
काश पञ्चविध तथा ॥ कुष्ठानि वातरक्तञ्च गुल्मशूलोदराणि च । आसवात जयदेतदपि
वैद्यविवर्जितम् ॥ चक्र ।

* There is a passage in Charaka in the chapter on *Kushtha* or skin diseases which some physicians construe into a recommendation for the use of mercury. It is this सर्वव्याधिविनाशनं मद्यात् कुष्टी रसचनिर्गृहीतम्. It may be translated as follows. Reduced mercury which cures all diseases should be taken by those affected with skin diseases. The term *rasa*, however, signifies mercury as well as many other things, such as myrrh, sulphur, gold etc. and since Charaka does not mention *parada*, the principal name for mercury it is doubtful if he really meant mercury by the term *rasa*. Supposing, however, he did mean mercury, its use was at all events, in his time confined to skin diseases only.

from all sorts of diseases. It is said that the physician who does not know how to use this merciful gift of God is an object of ridicule in society.

Good, mercury is said to be bright like the mid-day sun externally, and of a bluish tinge internally. Mercury of a yellowish-white, purple, or variegated colour should not be used in medicine. Mercury, as met with in commerce, contains several sorts of impurities, such as tin, lead, dirt, stone, etc. If administered in an impure state it is said to bring on a number of diseases, hence it is purified before use. Various processes for purifying mercury are described in books. At the present day the following is generally adopted by *Kavirājas*. Mercury is first rubbed with brick-dust and garlic, then tied in four folds of cloth and boiled in water over a gentle fire for three-hours in an apparatus called *Dolā yantra*. When cool, it is washed in cold water and dried in the sun. Some practitioners use betle-leaves instead of garlic for rubbing the mercury with. Mercury obtained by sublimation of cinnabar is considered pure and preferred for internal use.¹ Cinnabar is first rubbed with lemon juice for three hours, and then sublimed in the apparatus called *Uddhapātana yantra*. The mercury is deposited within the upper pot of the apparatus, in form of a blackish powder. This is scraped, rubbed with lemon-juice and boiled in water, when it is fit for use. A peculiar form of mercury called *Shadguna bala jārita rasa*² is thus prepared. A little sulphur is placed in an earthen pot, and over it some mercury. The pot is heated in a sand-bath, and, as the sulphur begins to melt, cautiously and gradually more of it is added to or placed over the mercury, altogether to the extent of six times the weight of the

1 हिङ्गुलीयरस । जम्बीरनिम्बुनीरेण सहित हिङ्गुल दिनम् । कर्द्धपातनयन्त्रेण
ग्राह्य स्यान्निर्मली रस । कच्चुकैर्नागवज्राद्यैर्निसृक्तो रसकर्मणि ॥

रसेन्द्रसारसंग्रह ।

2 षड्गुणबलिजारितरस । क्षुद्रभाण्डे रसं कृत्वा बालुकायन्त्रमध्यग । षड्गुण
गन्धक तत्र क्षिपेदल्पात्पक्वं शनैः । नैलरूपो यदा गन्धस्ततोऽवतारयेत् द्रुत । खाद्र शोते दृढे
गुम्फे स्फोटयित्वा रसं नयेत् । सर्वरोगेषु दातव्यो रसो व्याधिनिन्दनः ॥

रसेन्द्रसारसंग्रह ।

mercury When the whole is melted like oil the pot should be quickly removed from the fire, and cooled till the mass is consolidated It should then be broken, and the mercury extracted from within the mass Mercury thus obtained is said to be superior to all other forms, but it is not much used at present

The purified metal obtained by the processes above mentioned is employed for the preparation of mercurial compounds Four preparations of mercury are described in books, namely, black, white, yellow and red, called respectively, *krishna*, *sveta*, *pita* and *rakta bhasmas*

1 *Krishna bhasma* The black preparation is the black sulphide of mercury, made by rubbing together and dissolving over the fire three parts of mercury with one of sulphur ¹

2 *Rasakarpura* The white preparation is the *Rasakarpura* or perchloride of mercury Several processes are given for preparing it, one is as follows ² Take of mercury and chalk equal parts, and rub them together till the globules disappear Rub this mixture of chalk and mercury with *pānsu* (salt obtained from saline earth) and the juice of *Euphorbia nereifolia* (*snuhi*) repeatedly Enclose in a covered crucible and heat it within a pot full of rock salt The perchloride of mercury will be deposited in the shape of a pure white powder under the lid of the crucible The *Bhāvaprakāśa* gives the following process for its preparation ³ Take of purified

1 छणभस्म । लौहपात्रेऽथवा ताम्बे पल्लैक शुद्धगन्धकम् । भट्टमिना द्रुते तस्मिन् शुद्धसुत पलत्रयम् ॥ क्षिप्वा चालयेत् किञ्चित् लौहदाब्ज्या पुन पुन । गोमये कदलीपत्रं तस्योपरि च चालयेत् ॥ रसेन्द्रसारसंग्रह ।

2 खेतभस्म । पिष्ट पाशुपटु प्रगाढममल वज्रास्त्रुना नैकश सूत धातुगत खटीकवर्जितं तत् सपुटे रोधयेत् । अन स्या लवणस्य तस्य च तले प्रज्वाल्य वर्जितं षट्तात् धत्तं ग्राह्यमथेन्दु-कुन्दधवल भस्मोपरिस्थ शनै ॥ रसेन्द्रसारसंग्रह ।

3 अथ कर्पूर रसस्य विधि । तत्र पारदस्य संक्षिप्तशोधन कर्तव्यम् ।

शुद्धसूतसम क्रियात् प्रत्येक गैरिक सुधी । इष्टिका खटिका तद्वत् स्फटिका सिन्धु-जन्म च । वल्लीक चारुलवण भाण्डरञ्जकचक्रिकाम् । सर्वाण्येतानि सत्पूर्णा वामसा चा-शोधयेत् । एमिस्यूयुते सूत यावद्यानि विमर्दयेत् । तत्सूयसहितं सूतं स्थालीमथे परिक्षि-तस्या स्थाल्या मुखे स्थालीमपरा धारयेत् समाम् । सवस्त्रकुक्षितच्छदा सुद्रोदनयोः

mercury, *gairala* (red-ochre), brick dust, chalk, alum, rock salt, earth from ant-hill, *lshāri lavana* (impure sulphate of soda) and *bhāndarānjala*, or red earth used in colouring pots, in equal parts, rub together and strain through cloth. Place the mixture in an earthen pot, cover it with another pot, face to face, and lute the two together with layers of clay and cloth. The pots so luted are then placed on fire, and heated for four days, after which they are opened, and the white camphor-like deposit in the upper pot is collected for use.

3 *Pita bhasma*. The yellow preparation called *Pitabhasma*¹ is directed to be prepared as follows. Take of mercury and sulphur equal parts, rub them together for seven days with the juice of *bhumydmala* (*Phyllanthus nervi*) and *hastisundi* (*Heliotropium Indicum*). Place the mixture in a covered crucible, and heat it in a sand-bath for twelve hours. The result will be a yellow compound.

4 *Rakta bhasma*. The red preparation called *Rakta bhasma* or *Rasa sindura*² is prepared in a variety of ways. The following is one of them. Take of mercury and sulphur equal parts, rub together with the juice of the red buds of *Ficus Bengalensis* (*vata*) for three days successively, introduce the mixture within a bottle and heat it in a sand-bath for twelve hours. A red deposit will adhere below

सशीष्य सुद्रङ्गूयो भूय संशीष्य सुद्रथेत । सम्यक् विशीष्य सुद्रां ता स्थालीं चुल्या विधारयत् ।
अग्निं निरन्तरं दद्यात् यावद्दिनचतुष्टयम् । अङ्गारोपरितयन्त रक्ष्यवाद्दहर्निशम् । शमे-
यद्वाटयद् यन्त मूर्ध्नि स्थालीगतं रसम् । कप् रवत् सुविमलं गृहीयाद् गुणवत्तरम् ॥

भावप्रकाश ।

1 पीतभस्म । रसगन्धी समी कृत्वा दक्षिणशुष्कीद्रवैष्टम् । भूधातिकरसं पिष्ट्वा पचन्तं
दिनसप्तकम् । विष्टप्य वालुकायन्त्रे मूपाया सन्निवेश्य तत् । दिनमेकं ददेदग्निं मन्दं मन्दं
निशावधि । एव निष्पाद्यते पीतं शीतं सूतसु गृह्यते ॥

रसिन्द्रसारसम्पद ।

2 रक्तभस्म वा रससिन्दूर । पलमात्रं रसं शुद्धं तावन् मातन्तु गन्धकम् । विधिवत्
कज्जली कृत्वा न्यग्रोषाङ्गरवारिभिः ॥ मावनां वितथ दत्त्वा स्थालीमध्ये निधापयेत् ॥
अथ कवची यन्त वालुकाभिः प्रपूरयेत् ॥ दत्त्वा तदन्ते मन्दाग्निं पचेद्भामचतुष्टयम्
यते रससिन्दूरं तरुणाणामग्निभम् ॥ अनुपानविशेषेण करोति विविधान् गुणान् ॥

रसिन्द्रसारसम्पद ।

the neck of the bottle It is taken out in the shape of dark red shining scales

The four preparations of mercury above mentioned, though described in most works on metallic medicines, are not, practically used in the treatment of disease under these names In the present day the yellow preparation is not in use The white form called *Rasakarpuṇa* is now prepared, not according to the processes described in Sanskrit works, but by subliming the black sulphide of mercury with common or rock salt In this form it is largely manufactured and sold in all the bazars The red preparation is better known as *Rasa sindura*, and the black one as *Rasa parpati* In fact, practically, prepared mercury means the red preparation or *Rasa sindura* and this is the form in which it is largely used Besides this, the black and red sulphides of mercury are also used internally The black sulphide is prepared by rubbing together equal parts of sulphur and mercury till the globules disappear It is called *Kajjali*¹ The red sulphide or cinnabar is called *hingula*. These four preparations, namely, cinnabar, the black sulphide called *Kajjali*, the red preparation called *Rasasindura*, and the *Rasakarpuṇa* of the bazar, are the four principal forms in which mercury is used in Hindu medicine, that is, they constitute the basis of all the formulæ containing mercury

Mercury is said to be imbued with the six tastes, and capable of removing derangements of all the humours It is the first of alterative tonics Combined with other appropriate medicines it cures all diseases, acts as a powerful tonic and improves the vision and complexion

In fevers of all descriptions, mercury is extensively used in combination with aconite, croton seed, *datura*, and other medicines The following are a few illustrations

Hingulesvara Take of cinnabar, aconite, and long pepper, equal parts, rub together in a mortar and make into pills about

1 कज्जलिका । शुद्धं सूतं तथा गन्धं खल्लितावद्विनिर्द्ध्यते । सूतं न दृश्यते । किन्तु कज्जलवर्द्धनेत् ॥ एषा कज्जलिका ख्याता ब्रह्मणो वीर्यवर्द्धिनी । नानानुरागं सर्वव्याधिनिर्वाशिनी ॥

four grains each They are given, beaten up with a little honey, in ordinary remittent fever ¹

*Taruna gvarāri.*² Take of mercury, sulphur, aconite and croton seeds, equal parts, rub together with the juice of *Aloe Indica* and make into four grain pills These pills act on the bowels and relieve fever They are administered with sugar and water

In diarrhoea and dysentery, mercury is used in a great variety of forms The following are a few examples.

Vajrakapāta rasa ³ Take of mercury, sulphur, opium, *mocharasa*, (gum of *Bambax Malabaricum*), the three myrobalans, ginger, black pepper, and long pepper, in equal parts, powder and mix Soak the powder in the juice of the leaves of *Cannabis sativa* (*Vejayā*) and *Verbesina calendulacea* (*bhuringarāja*) seven times and make into six grain pills This medicine is administered with honey in obstinate chronic diarrhoea Dose grains four to twenty-four

*Rasa parpatr.*⁴ This is prepared by melting together a mixture of equal parts of sulphur and mercury in an iron ladle, smeared with *ghee* (clarified butter). The melted fluid is poured on a piece of plantain leaf, placed on a ball of cowdung It is then pressed

1 हिङ्गुखेत्तरः । तुल्यांशं सहयेत् खड्गे पिप्पलादिङ्गुल विषम् । द्विगुञ्ज मधुना देयं वातज्वरविमुक्तये ॥
भैषज्यरत्नावली ।

2 तरुणज्वरारि । जयपाल गन्धं विषं पारदञ्च तुल्यं कुमारीखरसेन पिष्टम् । अस्य द्विगुञ्जा हि क्षितोदकेन प्याती रसोऽयं तरुणज्वरारिः । दातव्य एषादग्निपञ्चमे वा पष्टेऽथवा सप्तमे एव वापि । जाते विरेके विजितज्वरं स्यात् पटोलमुद्गाम्बुनिषेवनेन ॥

भैषज्यरत्नावली ।

3 वज्रकपाटरसः । पारदं गन्धकं चैवाहिफेन सह मीचकम् । विकटुं त्रिफलाञ्चैव ससमेकवकारयेत् । भद्रं भद्रं द्रव्यैश्चैतत् भावयेच्च पुन पुन । रक्तिवधं ततश्चैव मधुना ह भक्षयेत् । असाध्यः प्रहणी हन्ति रसो वज्रकपाटकः ॥

भैषज्यरत्नावली ।

4 रसपर्पटी । पुष्पाङ्गो द्विविधशुद्धो समानौ रसगन्धकौ । सम्मथ कज्जलाभक्तु चूर्णं द्वाभवे ॥ ततो वदरवल्गुस्य लौघपात्रे द्रवीकृतम् । गोमयीपरि मग्नशुकदलोपवत् । कुर्याच्च पर्पटाकारं तत्खरक्तोद्भय क्रमात् ॥ द्वादशरक्तिका यावत् प्रयोगं चिकित्सारत्नम् ।

by another ball of cowdung, enclosed in plantain leaf. When cool, the black sulphide of mercury is obtained in the shape of round disks. It is much used alone, or with the addition of other medicines, in chronic diarrhoea. Other varieties of *Parpati* or mercurial preparations in shape of disks are prepared with the addition of iron, gold, copper etc., and used in this complaint, as for example, *Svarna parpati*, *Panchámrita parpati* etc. The preparation of the former will be described under the head gold. The latter is thus prepared

Panchámrita parpati ¹ Take of sulphur eight tolás, mercury four tolás, prepared iron two tolás, prepared talc one tolá, prepared copper half a tolá. Rub together in an iron mortar, melt in an iron ladle and prepare disks like those of *Rasa parpati*, above described. Dose four grains with honey and *ghee*, to be gradually increased to sixteen or eighteen grains. *Parpatis* of different sorts when given in cases of diarrhoea with anasarca are conjoined with a milk diet, water and salt being prohibited.

Mahágandha rasa ² Take of mercury and sulphur each two tolás, and make a *Parpati* as before described. Take of nutmegs, mace, cloves, and *nim* leaves, each two tolás, powder them well, mix together, and inclose the mixture within bi-valve shells. Cover the shells with a layer of clay and roast in fire. When cool, extract

1 पञ्चाशतपर्पटी । अष्टौ गन्धकतीलका रसदल लौह तदङ्गं शुभम् । लौहार्द्धं च वराधकं सविमलं तच्च तदभ्रार्द्धिकम् ॥ पात्रे लौहमध्ये च मर्दनविधौ चूर्णीकृतञ्चैकत । द्वयां वादर वज्रिनातिशब्दना पाकं विदित्वा दले ॥ रथाया लघु ढालयेत् प्रतुरिय पञ्चाशता पर्पटी । व्याता लौहदृष्टतान्विता प्रतिदिनं गुञ्जाद्वयं वृद्धित ॥ लौहे मर्दनयोगत सुविमलं भक्त क्रिया लौहवत् । गुञ्जाष्टावथवा विकं त्रिगुणितं सप्ताहमेव भजेत् ॥

सैषज्यरक्षावली ।

2 महागन्धकम् । रसगन्धकयोर्गोष्ठ्यं कर्षमेकं सुशीघ्रितम् । ततः कञ्जलिका द्यात्वा शृङ्गपाकेन शोधयेत् ॥ जातोफलं तथाकोषं लवङ्गारिष्ठपत्रके । एतेषां कर्षमात्रेण चर्षेण सह मर्दयेत् ॥ सुक्ता गृहे पुनः ख्याप्य पुटपाकेन साधयेत् । गुञ्जाद्वयप्रमाणेन वटिका कारयेद्बुध ॥ एतत् प्रोक्तं कुमाराणां रक्षणाय मर्दौषधम् । अर्शोऽपि दीपनञ्चैव वलवर्णप्रसादनम् ॥ दुर्वारयक्ष्णरोगं जयेच्चैव प्रवाहिकाम् । सूतिकाख्यं जयेद्देतदपि वैद्यविवर्जितम् ॥

रसेन्द्रसारस गृह ।

the medicine from the shells It is administered in doses of about four grains in the acute diarrhoea of children

Pándusudana rasa ¹ In jaundice, mercury is used along with other alteratives and purgatives, as in the following, called *Pándusudana rasa*. Take of mercury, sulphur, prepared copper, croton seeds and bdellium, equal parts, rub them together with *ghee* and make into two-grain pills They are given with the juice of *um* bark and honey in jaundice Acids and cold water for drinking should be avoided

In affections of the lungs mercury is used in a variety of combinations. The following are a few illustrations

Rasendra gudiká ² Take of purified mercury two tolás Add to it one tolá of the juice of *jyanti* leaves (*Sesbania Egyptica*) and of fresh ginger, rub together till the mixture thickens, then soak it in the juice of *Jussiaea repens* (*lanchata*) and *Solanum Indicum* (*vrihati*) respectively for twenty-four hours Take of purified sulphur eight tolás and soak in the juice of *Verbesina calendulacea* (*bhringarája*) When dry, mix the sulphur with the mercury, and rub together with sixteen tolás of goat-milk till the mass is fit for being made into pills Dose about four grains, to be taken with goat-milk and juice of ginger This pill is useful in bronchitis and cough generally

Rájamrgánka rasa ³ Take of *Rasa sindura* three parts, prepared gold and copper one part each, realgar, orpiment and sulphur

1 पाण्डुसूदनरस । रस गन्ध मत्त तास जयपालञ्च शुम्भुलुम् । समाशमान्यसंयुक्ता
गुडिका कारयेद्विषक् ॥ एकैका खादयेन्नित्य पाण्डुशोषोपशान्तये । शीतलञ्च जल चान्ध
वर्जयेत् पाण्डुसूदने ॥ रसेन्द्रसारसपट्ट ।

2 रसेन्द्रगुडिका । कर्ष शुद्धरसेन्द्रस्य खरसेन जयाद्र्यो । शिलाया खल्ययेत्तावदावत्
पिण्ड घन तत ॥ जलकर्षा काकमाची रसाभ्या सावधेत् पुन । सीगन्धिकपल भृङ्गखरसेन
विभायितम् ॥ चूर्णित रसमयुक्तमजाक्षीरपलदये । खल्लित घनपिण्डान् गुडो खिन्नकलाय-
वत् ॥ कृत्वादौ शिवमभ्यर्च्य द्विजातीन् परितोष्य च । जीर्णाग्नीभक्ष्येदेका क्षीरमासरसाशन ॥
सर्वरूप चय काश रक्तपित्तमरीचकम् । अपि वैद्यशतैस्त्याक्तमस्त्रपित्तं निघच्छति ॥ चक्र ।

3 राजमृगाक्षरस । रसभस्मवथी भागा भागैक द्वेभस्मकम् । मृततान्नस्य भागैक

two parts each and mix. Introduce the mixture into the cavities of *courses*, close their openings with borax reduced to a paste with goat-milk, roast the shells in closed crucibles and take out the medicine when cold. Dose about four grains, with two grains of long and two of black pepper, honey and clarified butter. It is said to be useful in phthisis, and chronic bronchitis with fever.

In diseases of the nervous system, several combinations of mercury with gold, iron, talc, etc. are used, such as, the *Chaturmukha rasa*, *Chintamani chaturmukha*, *Yogendra rasa* etc. They are all similar in composition, with but slight variation in the proportions of the active ingredients and their adjuncts.

*Chintamani chaturmukha*¹ is thus prepared. Take of the red preparation of mercury called *Rasa sindura* two tolás, prepared talc two tolás, prepared iron one tolá, prepared gold half a tolá, rub them together with the juice of *Aloe Indica* and make into two-grain pills. This medicine is said to be useful in nervous diseases, insanity, cephalalgia, deafness, noise in the ears, paralysis of the tongue, diseases of the female and urinary organs, phthisis, fever etc. It improves nutrition, increases the appetite and strength, and brightens the complexion.

As an alterative tonic the red preparation of mercury, or *Rasa-sindura* already described, is much used in a variety of diseases.

शिलागन्धकतालकम् ॥ प्रतिभागद्वयं शुद्धमेकीकृत्य विमद्ध्येत् । वराटी पूर्येत्तेन अलक्षोरिण
टङ्गणम् ॥ पिष्ट्वातेन मुखं रुद्धा सृङ्गाच्छेत् तत् निधापयेत् । शुष्कं गजपुटे पाच्यं चूर्णयेत्
खाद्वशीतलम् ॥ रसी राजसगङ्गोऽयं चतुर्गुणं चयापहः । दशपिप्पलिकं चौद्रैर्मैरिवैकीन-
विशतिम् ॥ सष्टैर्हृषिदेवैद्यो वातश्चेष्टमभवे चये ॥

भैषज्यरत्नावली ।

1. चिन्तामणिचतुर्मुखः । कर्षकं रससिन्दुरं तत्समं नृत्तमधकम् । तद्वर्द्धं मृतलोहस्य
खर्गशाणं क्षिपेदबुधः ॥ कन्यारसेन सम्यग्य गुञ्जामाना वटीश्चरेत् । अनुपानादिकं दद्यात्
बुद्धा दोषवलावलम् ॥ हन्ति पित्तात्मकं वायुं केवलं पित्तसंयुतम् । हृत्तामसश्च दाहं
वान्तिभान्ति शिरोघ्नम् ॥ प्रमेहं कर्णनादञ्च जङ्गमद्वन्द्वकृतम् । बाधिर्यं गर्भिणीरोगमग्नरी-
सुतिकामयम् ॥ प्रदरं सोमरोगञ्च यच्चाणं ज्वरकाशकम् । बलवर्णोद्भिदं सन्त्यक् कान्तिप्रपुष्टिं
प्रदायकम् ॥ चिन्तामणिरसश्चायं चिन्तामणिरिवापरः ॥

रसेन्द्रसारमण्ड ।

Two other forms of this medicine in common use are called *Shadguna balyārīta rasa sindura* and *Svarna sindura* respectively

Shadguna balyārīta rasa sindura is thus prepared Take of mercury and sulphur equal parts, and prepare *Rasa sindura* as already described by sublimation in a glass bottle. On the second day, mix this *Rasa sindura* with an equal quantity of sulphur and again sublime the compound. Repeat the process in this way, six times This preparation is considered superior to the ordinary *Rasa sindura*.

*Svarna sindura*¹ is thus prepared Take of fine leaf gold one tolá, purified mercury eight tolás, mix together by rubbing in a mortar, add twelve tolás of sulphur and again rub together, till the mass is of a dark colour Sublime in a glass bottle on the sand-bath The three forms of *Rasa sindura* above mentioned are said to cure all sorts of diseases, but are particularly used in chronic fever, catarrh and cough of children, mental and bodily debility, anæmia etc

Mercury is used in syphilis both externally and internally Syphilis, and its treatment by mercury are described only in recent compilations, such as the *Bhavaprakāsa*. The following are a few illustrations of its use in this disease

Saptasāli vati ² Take of mercury and catechu each half a tolá, pellitory root one tolá, honey one and a half tolá. Rub together till the globules of mercury disappear, and divide into seven pills or boluses. One pill is administered every morning with

1 खणसिन्दूर । सूक्ष्मपत्रं सुवर्णस्य सुशुद्धं कोलसञ्चितम् । शुद्धसूतपत्रे केन मेलयेद् यत्नतो भिषक् ॥ सार्द्धं पत्रं गन्धकश्च कृत्वा कज्जलिका ततः । निवेश्य काचकूप्याच्च दृढाया परिवेष्टयेत् ॥ तां कर्पटे मृदा चैव खटिकाभिः समन्ततः । सम्यक्निर्गन्धं यत्नेन संपूज्येश सहोभया ॥ वालुकायन्त्रमथो ना सन्निगन्धं समाहितम् । पचेद्वाद्दशयामास्तु निःसम्याते सुनिर्जने ॥ एकाकी पाकविधौ च स्वाङ्गशीतं समुदरेत् । खर्णसिन्दूरमित्येतत् सर्वरोगनिमूदनम् ॥ सचिप्रसार 1

2 सप्तशालिवटी । पारददृढमान स्यात् खदिरदृढसंमितः । अकराकरमस्यापि । दृढदृढयोन्मित । दृढवयोन्मित क्षीद्रं खल्लं सर्वत्र निक्षिपेत् । समर्द्धं तस्य सर्वस्य कथ्यात् । पत्रोर्भिषक् । स रोगी भक्षयेत् प्रातः, एकैका अङ्गुलीना वटीम् । वर्ज्येदस्त्रलवणं फिरङ्गस्तस्य भवप्रकाशः ।

water in primary syphilis. Acids and salt should not be taken after the use of this medicine.

*Rasa karpura*¹ or corrosive sublimate as sold in the bazars is recommended to be given in a single dose of eight grains. The medicine is enclosed in a ball of wheat-flour and covered with powdered cloves. It is swallowed with water so as not to touch the teeth. Salts and acids are forbidden to be taken after the use of this medicine. As the *Rasa karpura* of the bazars is not a pure perchloride of mercury, but is a mixture of calomel and corrosive sublimate in indefinite proportions, the patient sometimes escapes after this dose. When, however, it contains more of corrosive sublimate than of calomel, intense salivation, gastritis and even death may result. When such doses of poisonous remedies are recommended in standard works it is no wonder that we should occasionally come across cases of dreadful salivation, induced by native treatment. The circumstance of wheat-flour being used as a covering to the poison may act as an antidote to some extent. In secondary syphilis *Rasa karpura* is given in small doses in combination with cloves, saffron, sandal wood, and musk.

For external application, about a drachm of mercury is recommended to be rubbed between the palms with the juice of the leaves of *Sida cordifolia* (*bátyálaha*) till the globules of mercury are no longer visible. The palms are then to be warmed over the fire till perspiration breaks out from them.²

1 रसकर्पूरप्राशनेविधि । फिरङ्ग संचक रोग रस कर्पूर संचक । अवश्य नाशयेदेतदुचु पूर्वचिकित्सा ॥ लिख्यते रसकर्पूरप्राशनेविधिरुचम् । अनेन विधिना खादेन्मुखे शीथ न विन्दति ॥ गोधूमचूर्णं सत्रीय विदध्यात् सूक्ष्मकूपिकाम् । तन्मध्ये निक्षिपेत्सूतं चतुर्गुणमितं भिषक् ॥ ततस्तु गुटिका कुर्याद्यथा न दृश्यते वरि । सूक्ष्मचूर्णं खवद्वस्य ता वटोमवधूलयेत् ॥ दन्तस्पर्शो यथा न स्यात् तथा ताम्रभसा गिजेत् । ताम्रबल भक्षयेत् पश्चाच्छाकास्तत्रवणान् त्यजेत् । अममातपमध्वान् विशेषात् स्त्रीनिषेवनम् ॥

भावप्रकाश ।

2 पीत पुष्प वलापवरसैश्छिद्रकमित रसम् । हस्ताद्या मर्दयेत्तावद्यावत् सती न दृश्यते ततः सखे दयेद्दस्तावेव वासरसप्तकम् । त्यजेद्द्वयमसप्तच फिरङ्गस्तस्य नश्यति ॥

भावप्रकाश, ।

fumigation in primary syphilis, about half a drachm of sulphide, mixed with one fourth part of wheat-flour, is employed daily for seven days in succession.¹ In secondary syphilitic eruptions the following composition is used for fumigation. Take of cinnabar one tola, realgar half a tola, powder and mix. About fifteen grains of this is used at a time. Powders for fumigation are heated over a fire of jujube tree wood, and the vapour is applied to the skin under cover in a closed room.

Mercury enters into the composition of several applications for skin diseases, as in the following. Take of cinnabar, sulphur, red oxide of lead, rock salt, seeds of *Cassia tora* (*chakramanda*), *baberung*, *Cleome felina* (*sumrnalshiri*), and the root of *Apotaxis auriculata* (*kushta*) in equal parts. Powder them, and reduce to a thin paste with the juice of *datuna*, *nim* or betle leaves. This application is said to cure ringworm, eczema, prurigo, psoriasis etc.²

For lice in the hair, mercury rubbed with *datuna* or betle leaf is recommended to be applied to the scalp.³

ARSENIC

THREE compounds of arsenic are used in Hindu medicine, namely, arsenious anhydride or white arsenic, red sulphide of arsenic or realgar, and the yellow sulphide or orpiment. Of these three, orpiment and realgar have been used in medicine from a very remote period, and are indigenous to India. Native white arsenic is not met with in India. It is brought from Burmah, China and

1 धूमप्रयोगः । पारद कर्षमात्रं स्यात्तावानिव हि मत्सकः । तण्डुलाश्चाचमाता-
स्युरेषाः कुर्वन्ति कर्षलोम् ॥ तस्याः सप्तवटी कुर्यात्ताभिर्धूमं प्रयोजयेत् । दिनानि सप्त
तेन स्यात् फिरङ्गान्ती न सशयः ॥ भावप्रकाशः ।

2 हेमचोरी विडङ्गानि दरदङ्गन्तं तथा । दद्रुघ्नं कुष्ठं सिन्दूरं सर्वान्येकत्र मर्दयेत् ।
घत्तुरनिम्बताम्बुलीपतानाम् खरसैः शृथक् । अस्य प्रलेपमात्रेण यामाहद्रुविचर्चिका ।
कण्डू खरकसखैव प्रशमयान्ति वेगेन ॥ शाङ्गधरः ।

3 रसेन्द्रेण समायुक्ती रसी धुरतूरपत्रजः । ताम्बूलपत्रनी वापि लेपी यूक्विनाशनः ॥

चक्रः ।

the Persian gulf It is not mentioned in the more ancient Sanskrit works, neither in the list of metallic ores, where orpiment, realgar etc are described, nor in any prescription for the treatment of diseases In compilations of a later date, however, such as the Bhāvaprakāsa, and the Tantiya, it is recommended as a powerful medicine for fever, and is now much used as such

In these later works white arsenic is called by several names, such as शङ्खविष *Sankha visha*, साम्बलचार *Sāmbala kshāra*, फेनाश्मभस्म *Phenāsma bhasma*, and दारुमुच *Dārumuch* None of these terms, however, is to be found in standard lexicons, such as Wilson's Sanskrit-English Dictionary, or Sir Rājā Rādhākanta Deva's Sabdakalpadruma. *Phenāsma bhasma* is mentioned by Susruta in his chapter on poisons, where he says, it and *haritāla* (orpiment) are the two mineral poisons,* but it is very doubtful if Susruta meant any native white arsenic by it. The derivation of the term implies that it was obtained by roasting some sort of stone or ore White arsenic was obtained artificially in ancient days by roasting orpiment (see orpiment), and probably this preparation was called *Phenāsma bhasma* At a later period imported white arsenic had been used in medicine under the designations of *sāmbalakshāra*, *dārumuch*, and *sankha visha*.

WHITE ARSENIC

Sans शङ्खविष *Sankha visha* दारुमुच *Darumuch* साम्बलचार
Sāmbala kshāra

WHITE Arsenic is sold in the bazars under the names of *Sanka bish*, *Suffed sambul* and *Darumuch* It is purified by being soaked in lemon juice or the juice of the plantain tree It is chiefly used in fever, for which it is now preferred to the other compounds of arsenic, and is employed alone as also in a great variety of combinations The following are a few illustrations

Jvara brahmāstra ¹ Take of white arsenic two tolās, soak it in cow's urine for three days, and afterwards in the juice of

* फेनाश्मभस्महरितालच द्विधातु विधे । Susruta kalpasthana, chapter II

1 चरित्रज्ञान । विपनीच सनागम्य श्लक्ष्णं सुशीमनम् । आनीय सम्बल दे^५

Celsia Coromandelana (*lokasima*), for one day, and then wash in cold water. Take a small quantity, the weight of a mustard, (about one-ninth of a grain), and administer within a lump of sugar in intermittent fever before the paroxysm comes on. Thus taken for three days, it cures recent and chronic fevers, ague and remittent fever. It is called *Jvara brahmāstra* or the weapon which infallibly destroys fever.

Dārubrahma rasa ¹ Take of white arsenic, cinnabar, *datura* seeds and long pepper, equal parts, and make into four-grain pills with lemon juice. They are given with the juice of *tulsi* (leaves of *Ocimum sanctum*) in remittent fever with shivering, incoherent speech or wandering, profuse perspiration or much heat of body, difficult breathing, etc. The dose of arsenic in this medicine is very large and may induce unpleasant symptoms.

Chandesvara rasa ² Take of mercury, sulphur, aconite, prepared copper and white arsenic, equal parts, rub together with the juice of fresh ginger for six hours, then soak in ginger-juice and dry, successively for seven days. Afterwards soak in the juice of *Viter nigundo* (*nigundo*) for seven days, make into pills about a grain each, and administer with the juice of fresh ginger. Along with this medicine, inunction with oil, cold bathing and nourishing animal food should be used.

तोलक दय समितम् ॥ खच्चगोमूतमानोथ शरावेस्यापयेद्बुधः सम्बलं तत्र सचिष्यं दिवसत्रय-
मेव च ॥ तत उद्धृत्य देवेशि कुकशिश्वारसेषु च । स्थापयेद्दिनमेकं तत खच्चजलेन च । सशीथ
स्यापयद्देवि निर्मलेकाचपादके । एकसर्पपमानं तत् ज्वरागमनपूर्वतः ॥ फेणीमध्यगतं कृत्वा
भक्षेच्चस्थिरमानसः । अथवा शर्कराद्रात्रौ पीत्वा रोगी सुखी भवेत् । एवं दिनत्रयं मुक्तामुच्यते-
ज्वरसङ्घटात् जीर्णज्वरे तथावाते कम्पज्वरे विशेषतः निश्चितं ज्वरमुक्तं स्यात् सत्यं सत्यं न
संशयः ।

तन्वीक्ष्ण ।

1 दासन्नं वा कर्णिकरम् । रसजं शङ्खविषञ्चैव कृत्वा धुमूरबीजकैः । जम्बीराणां
उद्भवे सैर्हृदिगुह्यं परिमाणतः । गन्धपत्रानुपानेन कर्णिकायाः कुलान्तकृत् ॥

3

संचिन्तसार ।

2 चण्डेश्वररस रस गन्ध विषं ताम्रं साम्बलं चारमेव च । चाद्रकस्य रसेनैव सैर्हृदि

ORPIMENT

Sans. हरिताल, *Haritāla*

ORPIMENT occurs in two forms, namely, in smooth shining gold-coloured scales called *Vansapatni haritāla*, and in yellow opaque masses called *Pinda haritāla*. *Vansapatni haritāla* is preferred for internal use as an alterative and febrifuge. *Pinda haritāla* is chiefly used as a colouring ingredient in paints, and for sizing country paper. Most of the older Sanskrit MSS are written on paper prepared with *haritāla*, to preserve them from the ravages of insects, and this it does most effectually.*

यामसावकम् ॥ रसेनापिच तेनास्य भावयेत् सप्तवारकम् । निर्गूखीखरसेनापि भावयेत्
सप्तधा पुन ॥ गुञ्जाद्वमाना वटिका शुद्धाद्रकरसेनये । मूलादेव ज्वर हन्ति तैलाभ्यङ्ग
समाचरेत् ॥ सुशीतलजले स्नान तैलमत्स्यादि भोजनम् । चण्डेश्वरी रसी नाम सर्व-
रोगकुलान्तकम् ॥ स चित्रसार ॥

* Babu Rājendralāla Mitra gives the following interesting account of arsenicised paper in his report on Sanskrit manuscripts, published in the Proceedings of the Asiatic Society, for March 1875

"The manuscripts examined have mostly been written on country paper sized with yellow arsenic and an emulsion of tamarind seeds, and then polished by rubbing with a conch shell. A few are on white Kāsmīr paper, and some on Palm leaf. White arsenic is rarely used for the size, but I have seen a few codices sized with it, the mucilage employed in such cases being acac & gum. The surface of ordinary country paper being rough, a thick coating of size is necessary for easy writing, and the tamarind seed emulsion affords this admirably. The paper used for ordinary writing is sized with rice gruel, but such paper attracts damp and vermin of all kinds, and that great pest of literature, "the silver fish," thrives luxuriantly on it. The object of the arsenic is to keep off this insect, and it serves the purpose most effectually. No insect or worm of any kind will attack arsenicised paper, and so far the MSS are perfectly secure against its ravages. The superior appearance and cheapness of European paper has of late induced many persons to use it instead of the country arsenicised paper in writing books, but this is a great mistake, as the latter is not near so durable as the former, and is liable to be rapidly destroyed by insects. I cannot better illustrate this than by referring to some of the MSS in the Library of the Asiatic Society. There are among them several volumes written on foolscap paper, which dates from 1820 to 1830, and they already look decayed, mouldering, and touched in several places by silver fish. Others on John letter paper, which is thicker, larger and stouter, are already so far injured that the ink has quite faded, and become in many places illegible, whereas the MSS which were originally copied on arsenicised paper for the College of Fort William in the first decade of this century, are now quite as fresh as they were when first written.

Haridra is purified for internal use by being successively boiled in *kāñjika*, the juice of the fruit of *Benincasa cerifera* (*kushmānda*), sesamum oil, and a decoction of the three myrobalans, for three hours in each fluid. Some physicians, probably to save time, mix all these fluids together, and boil the orpiment in the mixture for three hours only. The dose of orpiment thus purified is from two to four grains.

Several methods of roasting orpiment are described. The *Bhāvaprakāśa* recommends that orpiment should be powdered and made into a ball with the juice of *Boccharia diffusa* (*punarnava*) and placed in the centre of a pot full of the ashes of that plant. The pot should be now covered with a dish, luted with clay, and heated over a fire for twenty hours. When cool the ball of roasted orpiment is taken out from the pot and reduced to powder. Another process is as follows. Take of purified orpiment and *yavaśhāra*, equal parts, rub them together with the juice of *Vitex Negundo* (*nirgundi*), and roast the mixture in a closed crucible. The resulting compound from both these processes is described as white camphor-like substance.

A specimen of roasted orpiment supplied to me by an up-country physician was analyzed and found to contain but a small proportion of white arsenic. Bengali physicians do not prepare this drug from a superstitious notion that the man who roasts orpiment dies very soon. They purchase it from *Fakirs* or religious mendicants. It is said that some specimens of roasted orpiment are highly poisonous, and contain a large proportion of white arsenic. The quality of the drug would no doubt vary according to the method in which it is prepared.

Orpiment is said to cure fevers and skin diseases, to increase strength and beauty, and to prolong life. In fever it is used in combination with mercury, aconite, etc. The following is an illustration.

I have seen many MSS in private collections which are much older, and still quite as fresh. This fact would suggest the propriety of Government records in Mofussil Courts being written on arsenicised paper instead of the ordinary English foolscap, which is rapidly destroyed both by the climate and also by white ants. To guard against this I should add here that the ordinary yellow paper sold in the bazars is mixed with turmeric, and not at all proof against the attack of insects."

Vetāla rasa ¹ Take of purified mercury, sulphur, orpiment, aconite, and black pepper, equal parts First rub the mercury and sulphur together, then add the other ingredients in fine powder, and make into two-grain pills They are given with the juice of fresh ginger in remittent fever with affection of the brain.

Vidyādhara rasa ² Take of mercury, sulphur, prepared copper, iron pyrites, realgar and orpiment equal parts, rub them together and soak the mixture in a decoction of long pepper and in the milky juice of *Euphorbia nereifolia* (*vajri*) Make into pills about six grains each These pills are given with honey in enlarged spleen and other enlargements of the abdominal viscera

Tālakesari rasa ³—Orpiment forms the active ingredient of several pills for skin diseases, of which this is an example Take of orpiment, realgar, iron pyrites (*svarnamākshaka*), mercury, borax, and rock salt, one part each, sulphur and burnt conch-shell two parts each, rub them together for a day with lemon juice, then add to the mass one-thirtieth part of its weight of aconite, and mix Dose, five to ten grains with butter. After it, powdered seeds of *Vernonia anthelmintica* (*vālkucha*), two diachms should be taken with honey and *ghee* This medicine is useful in all sorts of chronic skin diseases The above formula is taken from the *Bhāvaprakāśa* Śārangadhara gives a similar prescription under the name of *Mahātālesvara*

1 वेतालरस । रस गन्ध विष ताल मरिचश्च समाश्रिकम् । शिलाया मर्दयेत्तावत्
यावत् कज्जलसन्निभम् ॥ गुल्मासात्र प्रयोक्तव्यं हरेद्वाद्दशसत्तकम् । साध्यासाध्य निहन्ताग्र
सन्निपात सुदारुणम् ॥ स्नानेषु लिप्तदेहेषु मोहग्रन्थेषु देहिषु । दातुमर्हति वेताल यमदूत-
निवारणम् ॥ भैषज्यरत्नावली ।

2. विद्याधररस । गन्धकं तालकं दाप्य सृतं तावत् मनःशिला । शुद्धमूतस्य तुल्यांश
मर्दयेत् भावयेद्दिनम् ॥ पिप्पल्या स्वकषायेण वल्कोचीरेण भावयेत् । निष्कार्दं भक्षयेत् चौद्रे
श्रीहृत्पद्मादिकं जयेत् ॥ रसेन्द्रसारस ग्रह ।

3 तालकेशरी । तालताप्यशिला सूतद्वया सिन्धूस्पृता । गन्धको द्विगुणं सूतात्
शुद्धचूर्णं च तत्समम् ॥ जम्बीराद्भिदिनं घृष्टा त्रिशदश विष क्षिपेत् । स्वल्पं माषं
खादेन्माहिषीघृतसयुतम् ॥ मन्वाचैर्वाकुचीबीजकर्षं लिङ्घ्यात् तत् परम् । तालकेशरनाम्
सर्वकुष्ठहरो रस ॥ भावप्रकाश ।

Orpiment forms an ingredient of several external applications for skin diseases. Thus, take of orpiment, wood of *Berberis lycium* (*dānuharidrā*), seeds of *Raphanus sativus* (*mulaka*), wood of *Pinus Deodara* and betle leaves, each two tolas, burnt conch shell half a tola, beat them together with water into a thin paste. This paste is an useful application in psoriasis.¹

The use of orpiment as a depilatory was known to the ancient Hindus. It enters into the composition of numerous formulæ for the removal of hair. The following are examples.² Take of conch-shell-lime, soaked in the juice of plantain tree, and of orpiment, equal parts, make them into a paste with the aid of water, and apply it to the part from which the hair is to be removed. Or take of conch-shell-lime two parts, orpiment one part, realgar half a part, *sarjīhāshāra* (impure carbonate of soda) one part, rub together with water, and apply.

REALGAR

Sans मन शिला, *Manahsilā*.

REALGAR is purified by being rubbed with the juice of lemons, or of ginger. It is used internally in fever, skin diseases, cough, asthma, etc., and externally in skin diseases. In fever, it is generally used in combination with mercury, orpiment etc. The following is an illustration.

*Chandesvara rasa*³ Take of realgar, mercury, sulphur, and

1 दावीमूलकबीजानि तालक सुरदार च । ताम्रूलपत्र सर्वाणि कार्पिकाणि
ग्रथक् ग्रथक् ॥ शङ्खचूर्ण शानमात्र सर्वान्येकत्र चूर्णयेत् । खेपोय वारिणा पिष्ट सिध्दाना
नाशन पर ॥ शार्ङ्गधर ।

2 शङ्खचूर्णस्य भागी द्वी हरितालञ्च भागैकम् । मन शिलाचाङ्गभाग सजिका चैक
भागिका ॥ खेपोऽय वारिपिष्टतु केशानुत्पाद्य दीयते । अनया लेपयुक्ताश्च सप्तवर्ल
प्रयुक्तया । निर्मूलकेशस्थान स्यात् क्षणस्य शिरो यथा ॥

3 चण्डेश्वर रश्मि । समांशं योजयेत् खले रसं गन्धं शिला विषम् । निर्गुण्डी सरसे
विषं विवार चाद्रक द्वयम् । गुच्छैकं भक्षयेत् प्रति, ज्वर हन्ति सहोदतम् ॥

रसेन्द्रसारसम्पदः ।

aconite, equal parts, soak in the juice of *Vitea Negundo* (*nugundi*), and of fresh ginger, three times respectively, and make into two-grain pills This medicine is useful in remittent fever

Svása luthāra rasa ¹ Take of realgar, mercury, sulphur, aconite, borax, each one part, black pepper seven parts, ginger, and long pepper, three parts each, rub them together with water, and make into four-grain pills They are said to be useful in asthma with cough, and in remittent fever with cerebral complications In coma from remittent fever, these pills are powdered and used as snuff for rousing the patient They are also used in this manner in cephalalgia, hemicrania, ozæna, etc

Realgar enters into the composition of numerous applications for skin diseases Realgar mixed with the ashes of *Achyranthes aspera* (*apāmāṅga*) is applied to patches of leucoderma or white lepra In leprous ulcers a liniment composed of realgar, orpiment, black pepper, sesamum oil and the juice of *Calotropis gigantea* is used ²

Chandraprabhā varti ³ Realgar enters into the composition of several applications for the eye the following is an example Take of realgar, galena, conch-shell-lime, seeds of *Moringa pterygosperma* (*sveta maricha*), long pepper, liquorice and the kernel of belleric myrobalan, equal parts, rub them together with goat's milk, dry the mixture and make into small pastils or pencils These are rubbed with a little honey and applied to the eyes as a collyrium in affections of the internal tunics, tumors or other growths, night-blindness etc

1 श्वासकुटाररस । सूत गन्ध विषञ्चैव टङ्गनञ्च मन शिला । एतानि टङ्गमात्रानि मरिच तच्चतुर्गुणम् ॥ त्रिकटु विगुणञ्चैव खल्लपिष्टा विचूर्णयेत् । रसः श्वासकुटारोऽयं श्वाससर्वज्वरापह ॥

रसेन्द्रसारसुग्रह ।

2 मन शिलाल मरिचानि तैल माकं पय कुष्ठद्वर प्रदेह ॥ चक्र ॥

3 चन्द्रप्रभावर्त्ति । अञ्जन श्वेतमरिच पिप्पली सधुयष्टिका । विभोतकस्य मध्यन् शङ्खनाभि मंन शिला ॥ एतानि सप्तभागानि श्रजाक्षीरेणपेषयेत् । श्वायाशुष्का कृता वरि नेत्रेषुच प्रयोजयेत् ॥ अर्जुन पटल कार्चं तिमिर रक्तराजिकाम् । अधिमास सलई यश्चरादौ न पश्यति ॥ वर्त्तिचन्द्रप्रभा नाम जातान्ध्रमपि शोधयेत् ॥ चक्र

An oil for application to fistulous sores is prepared as follows Take of sulphur, realgar and turmeric, eight tolas each, mustard-oil one seer, juice of *datura* leaves one seer, water four seers, boil together in the usual way.¹

IRON

Sans लौह, *Lauha*.

THREE varieties of iron are used in Hindu Medicine, namely, *Kānta lauha* or cast-iron, *Mandura* or iron rust, and *Lauhasara* or salts of iron produced by iron being kept in contact with vegetable acids. The form of cast iron used in the manufacture of pans for boiling milk is considered superior to all others for medicinal use. The small particles of iron which are scattered around when hot iron is beaten on the anvil, are called *mandura*. They are allowed to remain in contact with the earth till they become very rusty and brittle, when they are considered fit for use. The properties of *mandura* are said to be analogous to those of cast iron. *Lauhasāra* or the granules produced on iron plates, smeared with vegetable acids, are also used in medicine. This variety of iron is said to be especially useful in diarrhoea, chronic bowel-complaints, dyspepsia and nervous diseases.

Cast iron is purified by beating it into thin plates, heating the plates in fire and sprinkling them with cow's urine, sour congee, oil, and a decoction of the pulse of *Dolichos uniflorus* (*kulattha*), seven times in succession. The plates are reduced to powder by pounding them in an iron mortar, rubbing them with cow's urine, and roasting the powder in a covered crucible repeatedly till it is reduced to a fine impalpable powder, that will float on water and will not irritate the eyes when applied to them. It is usual to rub the iron with cow's urine and roast it about a hundred times in succession. In some cases it is recommended that iron should be thus roasted repeatedly for a thousand times. *Mandura* is purified and prepared for use like cast iron. Prepared iron is a fine impalpable

¹ चूर्णेन गन्धकशिला रजनीभवेन सुष्टं शक्तेन कटुतैलपलायकं तु । धनूर पदरु-
² ल्यमिदं विपक्वं नाडी जयेत् चिरमवामपि कर्षजाताम् ॥ भावप्रकाशः ।

powder of a reddish grey or brick-dust colour On chemical analysis it is found to be a mixture of the proto and peroxide of iron. Dose, grains six to twelve

Iron, it is said, increases strength, vigour and longevity, cures all sorts of diseases and is the best of tonics When gold and silver are not available, iron is substituted for them It is used in painful dyspepsia, chronic fever, phthisis, anasarca, piles, enlarged spleen and liver, anæmia, jaundice, obesity, urinary diseases, diseases of the nervous system, skin diseases etc When iron is administered the following articles of diet should be avoided, namely, *kushmānda* (fruit of *Benincasa cerifera*), sesamum oil, *kulattha* (pulse of *Dolichos uniflorus*), mustard, wines and acids

In chronic fever with anæmia, debility, emaciation, enlarged spleen or other complications, several preparations of iron are used, such as the *Vrhat sarvagvara hara lauha*, *Chandanādya lauha* etc

Vrhat sarvagvara hara lauha ¹ Take of purified mercury and sulphur, prepared copper, iron pyrites, talc, gold and orpiment,

1 बृहत्सर्वज्वरहर लौहम् । पारद गन्धकं शुद्धं ताम्रं माचिकमधकम् । हिरण्यं हरितालञ्च कर्षमेकं पृथक् पृथक् ॥ सतकान्तं पलं देयं सर्वमेकीकृतं शुभम् । वक्ष्यमानौषधैर्भाष्यं प्रत्येकं दिनसप्तकम् ॥ कारवेक्ष्णं रसेनापि दशमूलं रसेन च । पर्पटस्य कपायेन क्वाथेन त्रैफलेन च ॥ शुद्ध्या खरसेनापि नागवल्ली रसेन च । काकमाचीरसेनैव निगुण्डा खरसेन च । पुनर्नैवार्द्रकाभीभिर्भावना परिकल्प्या च ॥ रक्तिकादिद्रुमेणैव वटिका कारयेद्भिषक् । पिप्पली शुडसयुक्ता वटिका वीर्यवर्द्धिनी ॥ ज्वरमष्टविधं हन्ति चिरकालसमुद्भवम् । विविध वारिदोषोत्थं नानादोषोद्भवन्तथा ॥ सततादि ज्वरं हन्ति साध्यासाध्यमथापि वा । क्षयोद्भवञ्च धातुस्य कामशोकमव तथा ॥ भूतावेश ज्वरं हन्ति कृचदोषमवन्तथा । अग्निघात ज्वरश्चैव अग्निचारं समुद्भवम् ॥ अग्निव्यास महाघोरं विषमञ्च त्रिदोषजम् । शीतपूर्वं दाहपूर्वं विषमं शीतलं ज्वरम् ॥ प्रलेपकज्वरं घोरं चर्दनारीशूरं तथा । क्षीहज्वरं तथाकाशं चातुर्थकविपर्ययम् ॥ पाण्डुरोगान् गणान् सर्वान् अग्निमान्द्रं महागदम् । एतान् सर्वान् निहन्त्याशं प्रचार्द्धं नावसशयः ॥ शाल्यत्रं तक्रसहितं भोजयेद्दिनसयुतम् । तकारपूर्वकं सर्वं वर्जनीयं विशेषतः ॥ मैथुनं वर्जयेत्तावत् यावन्न वलवान् भवेत् । सर्वज्वरं हरं त्रैलोक्यं मनुष्यान् प्रकल्पयेत् ॥

मैषज्वरबावली ।

each two tolás, prepared iron eight tolás, mix them together, and soak the mixture for seven days, in each of the following fluids, viz, fresh juice of the leaves of *Morordica Charantia* (*Láravella*), decoction of *dasamula* or ten roots (see *Hedysarum Gangeticum*), decoction of *parpata* (*Hedyotis biflora*), and of the three myrobalans, fresh juice of *guruchr*, (*Tinospora cordifolia*), of betel leaves, of *lakhamáchr* (*Solanum nigrum*), of *nirgundi*, (*vitex Negundo*), of *punarnavá* (*Boerhaavia diffusa*) and of ginger. Divide the mass into two-grain pills, and administer with long pepper and treacle. The dose of the medicine may be gradually increased. It is used in all sorts of intermittent fevers, in emaciation, wasting, hectic fever, enlarged spleen, anæmia, loss of appetite etc. A light diet consisting of fine rice and poultry meat should be adopted during the use of this medicine, and all undigestible food should be avoided.

Chandanádya lauha ¹ Take of red sandal wood, *Pavonia odorata* (*bálá*), *Cissampelas hernandifolia* (*páthá*), *Andropogon muricatus* (*usir*), long pepper, chebulic myrobalan, emblic myrobalan, ginger, *Nymphæa cyanea* (*nilotpala*), *Chavica officinarum* (*char*), *Plumbago Zeylanica*, (*chitraka*), and *babering* seeds, each one part, prepared non twelve parts, rub them all together. Dose about ten grains to be taken with the fresh juice of *Tinospora cordifolia* (*guruchr*) and *Hedyotis biflora* (*parpatr*). This medicine is said to cure all sorts of chronic intermittent fever and fever with enlarged spleen.

Vishomagarántala lauha ² This is another compound metallic preparation containing non and much used in chronic fever. To

1 चन्दनाद्यलौहम् । रक्त चन्दनञ्जीविर पाटीशीरकणाशिवा । नागरीमूल धवी-
भिस्त्रिमदेन समन्वित । लौहं निहन्ति विविधान् समस्तान् विषमज्वरान् ॥

रसेन्द्रसारसग्रह ।

2 विषमज्वरान्तकलौहम् । हिङ्गुलसम्भव सत गन्धकेन सुकण्डलोम् । पर्पटीरस-
व्याप्य सूताग्निहेमभस्मकम् ॥ लौहं ताम्रमधकश्च रसस्य द्विगुण तथा । वङ्गक गेरिकश्चैव
प्रवालश्च रसाङ्ककम् ॥ सुक्ता शङ्ख शुक्तिभस्म प्रदेश रसपादिकम् । सुक्तागृहे च सस्याप्य
पुटपाकेन साधयेत् ॥ भक्षयेत् प्रातरुत्थाय द्विगुणाफलमानत ॥ अनुपान प्रयोक्तव्य
कषादिङ्गुलसम्भवम् । ज्वरमष्टविध हन्ति वानपित्तकफोद्भवम् ॥ लीहान यक्षत गुल्म
साध्यासाध्यमथापि वा । सन्तत सतताख्यश्च विषमज्वरनाशनम् ॥ भेषज्यरत्नावली ।

prepare it, take of mercury obtained by sublimation of cinnabar, and sulphur, each one tolá Rub them together and melt over the fire in an iron ladle as in the preparation called *Rasapatri*, described under mercury Then take of prepared gold, one quarter of a tolá, prepared iron, copper, and talc, two tolás each, prepared tin, red ochre, and corals, half a tolá each, roasted pearls, conch-shell and bi-valve shell, each a quarter of a tolá Beat all these ingredients together into a mass with the aid of water Inclose the mass within bi-valve shells, cover the shells with a layer of clay and roast them lightly in cow-dung fire This medicine is given in doses of four grains with the addition of long pepper, rock salt, and assafoetida, each four grains, and a little honey It is taken once daily in the morning and is said to be useful in chronic fever, spleen and liver diseases etc

Several preparations of iron are used in piles, such as the *Mána suranádya lauha*, *Aśdā lauha*, *Agnimukha lauha* etc The first mentioned compound is prepared as follows

Mána suranádya lauha ¹ Take of the root-stocks of *Colocasia Indica* (*mána*) and *Amorphophallus companulatus* (*surana*), of the roots of *Ipomœa Turpethum* (*trivrit*) and *Baliospermum montanum* (*danti*), marking nuts, the three myrobalans, black pepper, long pepper, ginger, seeds of *Embelia Rubes* (*baberung*), root of *Plumbago Zeylanica* (*chitraka*) and the tubers of *Cyperus rotundus* (*mustaka*), equal parts, prepared iron in quantity equal to all the above ingredients Powder and mix Dose about a scruple This medicine is said to be useful in piles with constipation

Lauhāsava ² Take of powdered iron, of the three myrobalans,

1 मानसूरणाद्यलौहम् । माणसूरणभक्षतविद्वहन्तीसमन्वितम् । त्रिकवयसमायुक्तमयो-
दुर्नामनाशनम् ॥ मैषज्वरनावली ।

2 लौहासवम् । लौहचूर्णं त्रिकटुकं त्रिफलाच्च यमानिकाम् । विडङ्गं चिवकं सुमं
चतुःपलमितं श्यकम् । चूर्णीकृत्य ततः चौद्रं चतुषष्टिपलं क्षिपेत् । दद्यात् गुडतुला तत्र
जलद्रोणद्वयं तथा । दृढभाण्डे विनिक्षिप्य निदध्यान्मासमावकम् । लौहासवमिदं सत्तारं
पिवेद्वह्निकरं परम् । पाण्डुश्लेष्मद्युगलानि जठराण्यर्शसा रुजम् । कुष्ठग्रीहामयं कण्ड
काशं श्वासं भगन्दरम् । शरीरकञ्जं ग्रहणीं हृद्ग्रीवञ्च विनाशयेत् ॥

शाङ्गधर ।

ginger, long pepper and black pepper, *aywain*, *babrung* seeds, plumbago root, and tubers of *Cyperus rotundus* (*mustaka*), each thirty-two tolas, and honey eight seers, treacle twelve and a half-seers, water one hundred and twenty-eight seers. Powder the solid ingredients and steep them in the honey and water in an earthen jar smeared with *ghice*, for a month, or till complete fermentation takes place. This iron-wine is said to be tonic and stomachic, and useful in anæmia, spleen, anasarca, ascites, enlargements of the abdominal viscera, piles etc.

A'malahādya lauha ¹ Iron enters into the composition of several medicines for hæmorrhagic diseases, of such as the *Khandahādya lauha*, *Sudhāndha rasa*, *A'malahādya lauha* etc. We will here transcribe the mode of preparing the last which is the simplest and shortest. Take of emblic myrobalan and long pepper, each one part, sugar two parts, prepared iron four parts, powder and mix them together. Dose six to twelve grains in hæmoptysis, hæmaturia etc, with suitable adjuncts.

Guda mandura ² A preparation nearly similar to the above and called *Guda mandara* is used in dyspepsia. It is composed of old treacle, emblic and chebulic myrobalans one part each, and iron rust three parts. These are rubbed together with honey and *ghice*, and made into boluses about a drachm each. One of these is taken in divided doses before, along with, and after meals, in dyspepsia with pain after digestion.

Vidyādharaḥbha ³ Take of *babrung* seeds, tubers of *Cyperus rotundus* (*mustaka*), the three myrobalans, *gulanha*, root of

1 आमलकायलीहम् । आमलापिप्पलीचूर्णे तुल्यया सितया सह । रक्तपित्तहर
लौह योगराजनिमित्तम् । त्र्यम्बिकादीपन वस्य चास्त्रपित्तविनाशनम् । पिप्पलीत्यानपि
वातीत्यान् निहन्ति विविधान् गदान् । रसेन्द्रसारसग्रह ।

2 गुडमण्डूरम् । गुडामलकपायना चूर्णं प्रत्येकश पलम् । त्रिपल लौहकिङ्क
तत्सर्वं मधुसर्पिण्या ॥ समालोड्य समश्रियादक्षमावप्रमाणत । आदिमध्यावसानेषु भोजनस्य
निहन्ति तत् ॥ अन्नद्रव्यं जरन्तिमस्त्रपित्तं सुदारुणम् । परिणामं ससुखं सूलं सवत्सरी-
त्येतत् ॥ भावप्रकाश ।

3 विद्याधराक्ष । विडङ्गसुखविफला गुडूची दन्ती त्वहृज्जिकटुतयश्च । प्रत्येकमेव
पञ्चभागचूर्णे पलानिचत्वार्यं सीमलस्य । गोमूत्रशुद्धस्य पुरातनस्य यथायसन्तानि शिरा-

Baliospermum montanum (danti), of *Ipomœa Turpethum* (turrit), of *Plumbago Zeylanica* (shatraka), ginger, long pepper and black pepper, and each two tolás, prepared non thirty-two tolás, old non rust thirty-two tolás, prepared tale eight tolás, purified mercury one tolá and a half, sulphur two tolás Rub together the sulphur and mercury, then mix them with the other ingredients, add sufficient ghee and honey, and rub them together for twelve hours Preserve the confection in an earthen pot smeared with ghee Dose from ten to thirty grains with milk or cold water This medicine is used in chronic dyspepsia, especially in that form of the disease in which the pain comes on after digestion is completed, and in chronic fever, diarrhœa, phthisis etc

*Naváyasa lauha*¹ In anæmia iron is much used in a variety of forms The following compound powder called *Naváyasa lauha* is a popular and well known medicine To prepare it take of ginger, long pepper, black pepper, the three myrobalans, *babrung* seeds, tubers of *Cyperus rotundus* (*mustaka*) and plumbago root, each one part, prepared iron nine parts, powder the ingredients and mix. Dose four grains, gradually increased to eighteen grains, to be taken with honey and ghee This medicine is used in anæmia, jaundice, piles, heart disease etc It is given on the first day in four-grain dose Every second day the dose is increased

टिकाया । कृष्णधूर्णस्य पत्रं विशुद्धमिन्द्रिकस्य शूलमतीव सूतात् । पादीनकर्पं खरसेन खल्ले शिलातले मनुमनौदलस्य । विशेष पश्चादतिशुद्धगन्धपाषाणचूर्णेन पिचुन्मतेन । युक्ता तत पूर्वैरजासि दत्त्वा सर्पिसंघुभ्या परिमर्द्वा यवात् । निधापयेत् सिग्धविशुद्ध भाण्डे तत प्रयोग्योस्य रसोत्तमस्य । प्राङ्मापकोदावध वाद्रयो वा गवा पयो वा शिशिर जल वा । पिवेद्य योगधर प्रभूतकालप्रनष्टानलदीपनेषु । योगेषु हन्यात् परिनामसूत्र सूत्र तथात्र द्रवसचकच । यज्ञास्तपित ग्रहणी प्रवृद्धा जीर्णैर्वर लोहितपित्तकुष्ठम् । न सन्ति ते यानि निहन्ति रोगान् योगोत्तम सन्ध्युपास्यमानः ।

रसेन्द्रसारसग्रहः ।

1 नवायसलौहम् । वापणविफलासुखविडङ्गचिचका समा । नवायोरब्धो भागास्तूर्णं मधुसर्पिषा । भक्षयेत् पाण्डुहृद्रोगकुष्ठार्शः कामलापहम् ॥

अथ ।

by two grains till the maximum quantity is reached. The above preparation with the addition of one part of the watery extract of *gulantha* is called *Guduchyádi lauha*,¹ and is given in burning of hands and feet and in diseases supposed to be caused by deranged air.

Mahásráśāri lauha and *Pippuládi lauha*² are the two forms in which iron is used in asthma. They are similar in composition. The former is thus prepared. Take of prepared iron four tolás, prepared talc one tolá, honey and sugar four tolás each, the three myrobalans, liquorice root, raisins, long pepper, kernel of jujube fruits, bamboo-manna, *tálsapatra* (leaves of *Pinus Webbiana*), *babering* seeds, cardamoms, root of *Aplotaxis auriculat* (*kushtha*), and flowers of *Mesua ferrea* (*nágakesara*), each one tolá, powder and rub them together in an iron mortar. Dose about one scruple, to be taken with honey two or three times a day.

In enlarged spleen *Rohitaka lauha* is the favourite form in which iron is used. It will be described under *Rohitaka* (*Amoor Rohitaka*). In enlarged liver the following called *Yakridari lauha*³ is used. Take of prepared iron, talc and copper, each four tolás, root of *Citrus Bergamia* (*limpála*) eight tolás, burnt deer-skin eight tolás,

1. गुटूच्यादिलौहम् । गुडूचीसारसयुक्तं विकटममयी रजः । वातरक्तं निहन्त्याशु सर्ववातहरं परम् ॥
रसेन्द्रसारसप्रह ।

2. महाश्यासारिलौहम् । कर्षद्वय लौहचूर्णं कर्पादं मधमेव च । सिताकर्षद्वयचैव मधुर्कर्षद्वय तथा । त्रिफला मधुक द्राक्षा कणा कीलास्थिवशना । तालीशपत्रं वैडूर्यमेला पुष्करकेशरम् ॥ एतानि श्लक्ष्णचूर्णानि कर्पादं च समाशिकम् । लौहे च लौहदण्डेन मर्दयेत् प्रहरद्वयम् । ततो मावा लिहेत् क्षौद्रैर्बुद्धा दीपवलावल्म् । इदं श्यासारि लौहं च महाश्यास विनाशयेत् ॥ काशं पञ्चविधचैव रक्तपित्तं सुदारुणम् । एकज इन्दुजचैव तथैव सान्निपातिकम् । निहन्ति नात्र मन्देहो भास्करस्तिमिर यथा ॥

भेषज्यरत्नावली ।

3. यक्षदरिलौहम् । विकर्षं लौहचूर्णं च लम्बापि तथैव च । कर्षद्वयं सप्त ताम्रं लिम्बाकाञ्चित् च प्रलम् । रुशोज्जिनपलं भस्म सर्वमेककारयेत् । नवगुल्मा प्रसाधेन वटिका कारयेद्विपक्वम् । यक्षत्क्षीदीदरं हन्ति कामलाश्च हलीमकम् । काशं श्यासं चरं हन्यादल-
र्णाग्निवहनम् । यक्षदरिलिदं लौहं वातगुल्मविनाशनम् ॥

रसेन्द्रसारसप्रह ।

rub them together with water and prepare a pill-mass Dose grains nine to eighteen in enlarged liver, spleen, jaundice etc

In anasarca, iron is given in combination with carbonate of potash, as in the following called *Tryushanādh lauha*¹ Take of *yavakshāīa* (impure carbonate of potash), ginger, long pepper and black pepper, one part each, iron four parts Make into six-grain pills with water

In erysipelas, carbuncles and boils the following called *Kālagnerudra rasa*² is recommended Take of mercury, sulphur, prepared talc, iron, iron rust, and iron pyrites, each one part, rub them together with water, and roast the mixture within a covered crucible, when cool add to it one-tenth part of its weight of aconite, mix intimately, and divide the mass into twenty-two grain pills.

In urinary diseases the following, called *Meha mudgara rasa*,³ is used Take of musot, black salt, wood of *Berberis Asiatica* (*dāruharidā*), root of *Egle Marmelos* (*bilva*), *Tribulus terrestris* (*gokshura*), pomegranate seed, chiretta, long pepper-root, long pepper, black pepper, ginger, the three myrobalans and root of *Ipomœa Turpethum* (*trivrit*), each one tola, prepared iron fifteen tolas, bdellium eight tolas, mix them together and beat into a uniform mass with ghee Dose twenty-two grains with water or goat's milk This medicine is said to be useful in gonorrhœa, stranguy, chronic fever, anæmia, jaundice etc.

1. दूषणादिलौहम् । खयीरजस्सूक्ष्म यावशूक पूषक्षणीत विफलारसेन शीघ्रं निहन्त्यात् सत्सु नरसु यथाशक्तिर्वैचसुदीनवेगम् ॥ रसेन्द्रसारसग्रह ।

2. कालाग्निरुद्ररसः । सूतकालाधलीहाना भक्ष माक्षिकगन्धकम् । सूषराख्ये पुटे पद्याहिनैक तद्विपाचयेत् । दशमाश विष धीव्यं सापसावक्ष भक्षयेत् । रस कालाग्निरुद्रोयं दशाहने विसर्पणुत् ॥ रसेन्द्रसारसग्रह ।

3. मेहसुद्धररसः । रसाञ्जन विड दाक्षविल्लीचुरदाहिमा । भूनिम्न पिप्पलीभूल विकटुविफलाविष्टत् ॥ प्रत्येक तोलकं देव लीहचूर्णन्तु तत् समम् । पल्लैक गुग्गुलु दत्ता हृतेन वटिका क्षुद्र ॥ सापैकप्रमिताचय मेहसुद्धररसञ्जिनी । श्रीमद्भद्रननायेन लोकनिस्सार-कारिणी ॥ अनुपान प्रयोक्तव्य क्षाणीदुग्ध जलस्य वा । विशक्नेच निरुन्त्याशू मूत्रक्षच्छ हलीमकम् ॥

रसेन्द्रसारसग्रह ।

Vrihat Somanátha rasa ¹ Take of mercury obtained by subliming cinnabar and purified with the juice of *Erythrina Indica* (*pámbhadrá*), and of sulphur, rubbed with the juice of *Salvinia cucullata* (*Leandá*) each one part, prepared iron four parts, prepared talc, tin, silver, *Kharpara* or culamine, iron pyrites, and gold, each half a part Rub them together with, and soak in the juice of *Aloe Indica* (*ghritakumári*) and *Hydrocotyle Asiatica* (*mandulaparni*) and divide into four-grain pills They are administered with honey in diabetes and other urinary diseases, female complaints etc A preparation similar to the above in composition, and called *Somesvara rasa* is given in leucorrhœa and other female complaints Besides the preparations mentioned above numerous other combinations of mercury, iron and talc with the addition of gold, silver, copper etc in varying proportions and combinations, are described under different names In fact the three first mentioned drugs constitute the basis of the great majority of the pills used by *Kavirájás*

Iron forms an ingredient of hair dyes The following is an illustration Take of powdered iron two tolás, mangoe stones five tolás, chebulic and emblic myrobalans two tolás each, bellenic myrobalan one tolá, rub them together with water in an iron vessel and steep for one night This paste is applied to grey hairs for turning them into black ²

1 बृहत्सीमनाथरस । हिङ्गुलात् सम्भव सूत पालिधारस मर्दितम् । रण्डाभीषितं गन्धं तेनैवकञ्जली कृतम् ॥ तद्गुणैर्गुणं लौहं कन्यारसवि मर्दितम् । अधर्कं वद्धक रौप्यं खपरं माचिकं तथा ॥ सुवर्णं समं सर्वं प्रत्येकश्च रसादकम् । तत्सर्वं कन्यकाद्रावेर्मह्ये-
 ज्ञावयत्तथा । भेकपर्णीरसेनैव वटी गुञ्जादयां क्षिताम् । मधुना भक्षयेच्चापि सीमनरोगं निवृत्तये । प्रमेहं विनष्टि क्षन्ति वज्रमूत्रं च सीमगम् । सूत्रातिसारश्चक्षुश्च सुवाघात सुदार-
 णम् । मूत्रदोषं वज्रविधं प्रमेहं मधुसङ्गकम् । हस्तिमेहमिच्छुमेहं लालामेहं विनाशयेत् ।
 गृहे यस्य शतं स्त्रीणां विद्यते च व्यावायिन । न तस्य लिङ्गं शैथिल्यं शक्रचयौ न जायते ।
 अग्निश्च कुक्षे दीप्तिमस्तपित्तं नाशयेत् । वातिकं पित्तिकं चैव स्त्रीष्वपि सीमनामकम् ।
 नाशयेत् वज्रमूत्रं प्रमेहमधिकस्पत ॥

रसेन्द्रसारमंग्रहः ।

2 लौहचूर्णस्य कर्पतु दशार्धं चूतमज्जतः । धात्रीफलस्य पथ्ये द्वे तथैकं विभोतकम् ।

SULPHATE OF IRON

Sans. काशीश *kāsisa*

NATIVE sulphate of iron is indigenous to India, and has been used in medicine from a very ancient age. Two sorts of sulphate of iron are mentioned, namely, *Dhātukāsisa* or green variety and *Phushpa kāsisa* or yellowish variety. The latter is evidently sulphate of iron covered with the basic sulphate of the sesquioxide from absorption of oxygen. It would seem that the ancient Hindus did not know sulphate of iron, as an iron compound. It is neither described as a tonic nor used in combinations with iron like iron pyrites and iron rust. It is seldom used internally. I have met with only one prescription by Chakradatta, who recommends a linctus composed of sulphate of iron and pulp of wood apple, in hiccup¹

Externally, it is used in skin diseases along with other medicines. Thus take of sulphate of iron, gall-stone of cows (*gorochanā*), musot and orpiment, equal parts and beat into to a paste with *kānyaka*. It is useful in intertrigo, pruritis etc²

*Kāsisaśadyatāra*³ Take of sesamum oil four seers, water sixteen seers, sulphate of iron, wood of *Withania somnifera* (*asvagandhā*), bark of *Symplocos racemosa* (*lodhra*), root of *Pothos officinalis* (*gajapippalī*) each sixteen tolās. Beat the solid ingredients into a paste and boil it with the oil and water in the usual way. This oil is recommended to be applied to the genitals and the breasts with the view of strengthening these parts.

पिष्टालोहमये माण्डे स्थापयेन्निशि वासयेत् । लेणोयमचिराद्भन्ति पलितं नाममशयः ।

भावप्रकाश । .

1 चिकित्साग्रामे अवलोह । काशीश दधिनामच चिकित्सा मधुसंयुता । चक्र ।

2 काशीश रीचनानुल्य हरिताल रसाञ्जनम् । अक्षुपिष्ट प्रलेपीय दृषकच्छुहि पूतयी ॥ चक्र ।

3 काशीशाद्यतैल । काशीशतुरगगन्धा शारंगजपिप्पलीविषश्चेन । नैलेन यान्ति वृद्धि स्तनयोवरङ्गलिङ्गानि ॥

चक्रदत्त ।

IRON PYRITES

Sans स्वर्णमाचिक *Svarnamāshika*, तारमाचिक *Tāramāshika*.

IRON pyrites is met with in many parts of India, and has been used in medicine from a very remote period. It occurs in two forms, namely, in dark yellow nodules with a golden lustre, and in silvery, radiated crystals. The former is called *Svarnamāshika* and the latter *Tāramāshika*. The ancients supposed that they contained gold and silver respectively, in combination with other ingredients, and possessed in part the properties of those precious metals*. Chemically iron pyrites consists of bisulphide of iron. It is purified by being boiled in lemon juice with one-third of its weight of rock-salt in an iron vessel, till the pot turns red hot. It is reduced to powder by being rubbed with oil or goat's urine and then roasted in a closed crucible. Iron pyrites thus prepared has a sweetish bitter taste. It is considered as tonic, alterative and useful in anæmia, urinary 'diseases, ascites, anasarca, prurigo, eye diseases etc. As an alterative tonic it is generally used in combination with other medicines of its class, such as iron, talc, mercury etc. The following is an example. Take of prepared iron, sesamum seeds, long pepper, black pepper and ginger each one part, iron pyrites five parts. Beat into a mass with honey. Dose about half a drachm in advanced anæmia¹.

In diseases of the pregnant state the following called *Garbha-vinoda rasa*² is much used, as an alterative tonic. Take of iron pyrites and cinnabar, each four tolās, ginger, long pepper and black pepper, each three tolās, cloves and mace, each six tolās, beat them

* न केवलं स्वर्णरूप्यगुणास्तापिजयोर्मै ता द्रव्यान्तरस्य ससर्गात् सन्तान्दोऽपिगुणास्तयोः ॥

भावप्रकाश ।

1. स्वर्णमाचिक अयस्त्रिलङ्गुषणकीलभागे सव्यै, समं माचिकधातुचूर्णम् । तैर्मैदक-
चौद्र्युत्तोलुतक्र. पाण्ड्यामये दूरगतेपिशस ॥ चक्र. ।

2 गर्भविनीदरस । विभागं विकटुदेयं चतुर्भागञ्चहिङ्गुलम् । जातीकोष खड्ग-
प्रत्येकञ्च विकार्यिकम् । सुवर्णमाचिकञ्चैव पलाईं प्रचिदेद्दुध । जलेन मर्दयित्वा च चण-
मावावटीकता । निहन्निगर्भिणी रोग भास्करस्त्रिमिर यथा ॥

रसेन्द्रसारसंग्रह ।

together with water and divide into pills about four grains each
One pill to be taken twice daily

GOLD

Sans सुवर्ण, *Suvarna*.

GOLD enters into the composition of a large number of medicines for various diseases. Pure leaf-gold is used. It should be free from admixture of copper and silver, of a red colour when exposed to heat, and of saffron colour when rubbed on touchstone. It is purified by heating its leaves and cooling them alternately with *Lángula*, oil, cow's urine, butter-milk and a decoction of horsegram. Gold is reduced to powder by being rubbed with mercury and exposed to heat in a covered crucible with the addition of sulphur. Two parts of mercury and one of leaf-gold are rubbed together into a mass with lemon juice and placed in a crucible with three parts of sulphur. The crucible is then covered and exposed to heat. This process of mixing the gold with mercury and exposing to heat is repeated fourteen times, when the gold completely loses its metallic character. In books it is stated that the gold should be rubbed with mercury only the first time, and that in roasting it afterwards sulphur alone should be placed in the crucible with the gold, but *Kavṇāya* Binod Lal Sen tells me that he reduces gold to powder by mixing it with mercury every time it is roasted, and that he repeats the process till the gold is reduced to a dark brown impalpable powder. This powder of gold appears to undergo little change from its metallic state, for on being rubbed on an agate mortar it produces a brilliant yellow stain like that of massive gold, when it is rubbed on touchstone for ascertaining its purity.

Gold thus prepared for medicinal use is considered a valuable tonic and alterative. It is said to increase strength and beauty, to improve the intellect and memory, to clear the voice and to increase the sexual powers. It is used in fever, consumption, insanity, diseases of the nervous system and urinary organs, impotence, etc. Dose, one to two grains.

Jayamangala rasa ¹ Take of mercury obtained by sublimation, of cinnabar, sulphur, borax, prepared copper, tin and iron pyrites, rock-salt, and black pepper, prepared iron and silver, each one part, prepared gold two parts, powder them well, mix and soak the mixture three times respectively in the juice of *datuna* leaves, and leaves of *Nyctanthes Arborescens* (*sephālīkā*), in the decoction of the ten roots, called *dasamula*, and of chiretta Divide the mass into four-grain pills They are taken with cumin-seed powder and honey This medicine is used in old chronic fevers of all sorts and is said to be a powerful tonic and alterative, that may be administered with suitable adjuncts in many diseases

Mṛgāṅka rasa ² Take of mercury one part, prepared gold one part, sulphur and pearls each two parts, borax one-fourth part, rub them together and beat into a ball with *lāṅyika* This is dried, enclosed in an earthen crucible and exposed to heat within a pot of rock-salt in the manner of a hot sand-bath for twelve hours When cool the ball is taken out from the crucible and reduced to powder It is administered in doses of one to four grains with about a scruple of black pepper in phthisis Two other preparations used in this disease, and called *Pottali hemagarbha rasa*, and *Ratnagarbha pottali rasa*, respectively, are similar in composition to the *Mṛgāṅka rasa* They contain mercury, sulphur, gold, pearls, borax etc, in varying proportions

1 जयमङ्गलरस । हिङ्गुलसम्भव सूत गन्धक टङ्गण तथा । ताम वङ्ग माचिकच
सैन्धव मरिच तथा । सर्वं सम समाहृत्य द्विगुण खर्षभसूक्ष्मम् । तद्वर्द्धं कान्तलौहचरु-
भस्मापि तत्समम् । एतत्सर्वं विचूर्णाय भावयेत् कनकद्रवे । शेषालिदलजैस्यापि दश-
मूलरसेन च । किराततिक्तकौथैः त्रिवार भावयेत् सुधौ । भावयित्वा ततः कार्यागुल्लवय-
मिता वटी । अनुपान प्रयोक्तव्य जीरकमधुसयुतम् । जीर्णज्वर सप्ताधोर चिरकाल ससङ्ग-
वम् । ज्वरसद्विधं हन्ति साध्यासाध्यमद्यापिवा । पृथक् दोषाद्यविविधान् समस्तान्विषम-
ज्वरान् ।

रसेन्द्रसारसंग्रह ।

2] मृगाङ्गरस । स्याद्रसेन सम हंस मौक्तिक द्विगुण भवेत् । गन्धकस्तु समस्तेन
रसपादस्तु टङ्गण ॥ सर्वं तद्गोलक कृत्वा काञ्चिकेन विशीधयेत् । भाण्डे लवणपुर्णे च
पचेदाम चतुष्टयम् ॥ मृगाङ्गसङ्गकी क्षेय रोगराज निहन्तन ॥

रसेन्द्रसारसंग्रह ।

*Suvarna parpatī*¹ Take of mercury eight tolás, gold one tolá, rub them together, then add sulphur eight tolás and mix. Melt the mixture over the fire in an iron ladle smeared with *ghee*, and press the melted fluid between cow-dung balls enclosed in plantain leaves in the manner described under *Rasa parpatī*, so as to make thin round disks of it. This medicine is used like *Rasa parpatī* in chronic diarrhoea, and anasarca. Milk diet is enjoined, and water and salt are prohibited. Dose grains two, gradually increased to grains ten in the course of twenty-one days, to be again gradually reduced to the original dose of two grains in another three weeks. Another preparation of the sort called *Vijayaparpatī* contains diamond, pearls, silver, copper, and talc, in addition to gold, sulphur and mercury. It is used in the same cases as the *Suvarna parpatī* above described.

Gold is much used as an alterative tonic. Prepared gold in doses of two grains daily with the addition of honey, *ghee* and emblic myrobalan, or root of *Acorus Calamus* (*vacha*) is recommended to be taken for a lengthened period². It is also given to infants under an impression that it will impart strength and beauty to their frames. The following composition is recommended for them. Take of powdered gold, root of *Acorus Calamus* (*vacha*) and *Aplotaxis auriculata* (*kushtha*), chebulic myrobalans, and leaves of *Herpestes Monnina* (*brmhā*) equal parts, powder and mix. Dose two grains with honey and *ghee*. It is recommended to be given to feeble infants a few days after birth.

The principal alterative tonic of the Hindu Materia Medica is the preparation popularly called *Maharadhva*. To prepare it, take

1 स्वर्णपर्पटी । रसोचम पक्ष शुद्ध हेमतीलकसुतम् । शिलाया मर्दयेत् तावत् यावदेकत्वमागतम् ॥ गन्धकस्य पलञ्चैकमय पात्रे ततो दृढे । नर्दयेद्दृढपाणिभ्या यावत् कज्जलता व्रजेत् ॥ तत पर विधानेन च पर्पटी कारयेत्सुधी । रक्तिकादिक्लमेणैव योजयेदनुपानतः । ग्रहणी विविधा हन्ति त्रया सर्व्व्वरापह्ना ॥

रसेन्द्रसारस्य च ।

2 मध्वामलकचूर्णञ्च सुवर्णञ्चेति तत्तयम् । माय्यारिष्टगृहीतोऽपि सुच्यते प्राणसंशयात् । वचाघृत सुवर्णञ्च मधुना सह सलिहेत् । सम्बत्सर प्रशुद्धान श्रुतिधारी भवेन्नर ॥

सन्देहमञ्जनो ।

of leaf-gold one tolá, mercury eight tolás, beat into a mass, then add sulphur sixteen tolás, and rub together till the mass becomes black. Rub this mass repeatedly with the juice of the red cotton flower and of *Aloe Indrica*, and dry. Now take a bottle with a flat bottom, wrap it with layers of cloth and clay to strengthen it, and dry. Place the mixture of gold, mercury and sulphur at the bottom of the bottle, insert it in a sand-bath up to its neck and cover the mouth lightly with a piece of chalk. Apply heat gently at first. When the process of sublimation commences the heat should be increased, and the chalk-stopper removed. The sulphur now burns with its characteristic blue flame at the mouth of the bottle and a red sublimate collects below its neck. The narrow neck of the bottle is apt to be closed with sulphureous deposits and when there is this tendency, it should be cleared with an iron rod. The sublimation is over in the course of about nine hours. When done the bottle is broken, and the sublimate extracted from its neck in the shape of shining dark red scales. In this process the sulphur and mercury are sublimed in the form of red sulphide, and the gold remains at the bottom of the bottle. The latter may be used again in the preparation of *Makaradhvaja* or converted into powdered gold. *Makaradhvaja* is administered in doses of one grain daily with honey or other suitable adjuncts in nervous debility, weakness of brain from excessive mental labour, habitual costiveness, general debility, female complaints after delivery, spermatorrhoea etc.

Chandrodaya makaradhvaja ¹ When *Makaradhvaja* is administered as an aphrodisiac, it is usual to mix it with some stimulant

1 चन्द्रोदयमकरध्वज । पल मृदुस्पर्शदल रसेन्द्रात् पलायक पीडशगन्धकस्य । शीथै-
स्तुकार्पासभवैप्रसूने सर्वं विमहाय कुमारिकाङ्गि । यत्वापकूपे निहित प्रगाढ मृत्कपटै-
स्तद्विवसत्यक्ष । पचेत् क्रान्ताग्नौ सिकताख्ययन्त्रे ततो रजः पल्लवरागरन्मम् । निगृह्य चैतस्य
पल पलानि चत्वारिर्कपूररजस्तथैव । जातीफल सोषणमिन्द्रपुष्पम् । कस्तूरिकाया इहशाण
एक । चन्द्रोदयाय कथितोऽस्य माषोभूतोद्धिवल्लीदल मध्यवर्त्ती । सदीप्तदाना प्रमदाशतानां
गर्वो दिकल ज्ञाघयत्यवश्यम् । घृत घनीभूतमनीषदुग्धं गुरुणि मासानिसमष्टकान् ।
माषान्नापिष्टानि भवन्ति पथ्यान्वानन्ददायोन्य पराशिवात् । वलीपलितनाशन स्तनुभृता
यस्तम्भन समस्तगदनाशन, यवल रोगपञ्चानन ।

रसेन्द्रसारसग्रह ।

drugs, the resulting preparation being called *Chandrodaya makaradhvaja*. Thus take of *Makaradhvaja*, one part, camphor, nutmegs, black pepper, and cloves, each four parts, musk one-sixteenth part, mix together and make into pills about ten grains each. These pills are enclosed or wrapped in betle leaves and chewed. Along with this medicine a generous diet consisting of meat, *ghee*, milk, pulses, etc., should be taken. It is used in nervous debility, impotence, premature old age etc*. A preparation similar in appearance to *Makaradhvaja* and called *Ashtavakra rasa*, is sublimed from a mixture of mercury, sulphur, gold, silver, lead, copper, zinc and tin in equal parts. It is used as a nervine tonic in general debility.

SILVER

Sans रज्य, *Rupya*. तार, *Tāra*

PURE silver, according to Sanskrit writers, should be soft, white, brilliant and ductile. It should not be discoloured by fire. Impure silver, that is, silver mixed with other metals, is discoloured by fire, of a reddish or yellowish colour, and not ductile. Silver is purified in the same way as gold. It is converted into a black oxide by thin silver leaves being mixed with twice their weight of cinnabar, and heated in the subliming apparatus, called *Uddhapātana yantra*. This process is repeated fourteen times. The resulting compound is a fine greyish black powder with minute shining white particles intermixed with it. On chemical analysis it is found to consist of the black oxide of silver. The properties of silver thus prepared are said to be allied to those of gold but somewhat inferior. It is generally used in combination with other metals, such as gold, iron,

* *Makaradhvaja* is regarded as a preparation of gold, which is supposed to be the active principle of the medicine. The gold used in its preparation however remains below, and the mercury and sulphur only are sublimed in the form of red sulphide, as in the preparation of mercury called *Rasaśūdra*. Properly speaking, therefore, it is but a preparation of mercury, although the gold may possibly exercise some catalytic influence during the process of sublimation. Some physicians use the preparation called *Sadgunabalyarita rasaśūdra* (see page 36) under the name of *Makaradhvaja*.

etc Dose, grains one to two The following is an example of a complex prescription containing silver

*Vrihat vāta gajānkusa*¹ Take of mercury, prepared tale, iron, gold, copper and silver, orpiment, sulphur, ginger, coriander, root of *Sida cordifolia* (*balā*), bark of *Myrica sapida* (*katphala*), *Rhus succedanea* (*śringr*), aconite, long pepper, black pepper, and borax, each one part, chebulic myrobalans, two parts, powder, mix and rub with the juice of *Sphaeranthus mollis* (*mundr*) and *Viter Negundo* (*nirgundi*) for one day Divide the mass into four grain-pills They are said to be useful in various nervous diseases Silver enters into the composition of several other remedies in common use, such as the *Yogarāja* (see *śilājatu*), *Jayamangala rasa* (see gold) etc.

COPPER

Sans ताम्र, Tāmra Vein Tāmā

THIN plates of copper such as can be pierced by thorns are used in medicine They are purified by being boiled in cow's urine for three hours Copper is reduced to powder by smearing its thin leaves with a paste of sulphur and lemon juice, beating them into a mass, and exposing to heat in a covered crucible within a sand-bath for twelve hours The powder thus produced is rubbed with *kānjika* and made into a ball, which is introduced into a tuber of *Amorphophallus campanulatus* (*ola*), as in a crucible and roasted This last process is said to render the copper innocuous and prevent it from causing purging and vomiting when taken internally

Copper thus prepared is a dark coloured powder, somewhat gritty to the feel On chemical analysis it is found to consist of sulphide -

1 वृक्षत्वातगजाङ्गुश । सूताभतीक्ष्णतामाशितारतालकगन्धकम् । स्वर्णं शुण्ठी
बलाधान्य कटुफलक्षामयाविषम् ॥ पथ्याशुङ्गी पिप्पली च मरिच टङ्ग यन्तथा । तुल्यं खल्ले
दिनं मह्यं सुण्ठीनिर्गुण्ठीजैर्द्रवैः । दिगुञ्जा वटिका खादेत् सर्व्ववातप्रसान्तये । साध्या-
सूथ निचन्ताय रसीवातगजाङ्गुशः ॥

रसेन्द्रसारसग्रहः ।

of copper. It is described as an alterative, emetic and purgative, and is used in poisoning, dyspepsia, fever, enlarged liver and spleen, anæmia, skin diseases, diarrhœa etc Dose, as an alterative, grains two to four In poisoning prepared copper is given in doses of about twenty-four grains with sugar or honey to cause vomiting¹

Copper enters into the composition of several medicines for ague, remittent fever, enlarged spleen etc The following are a few illustrations

*Setabhanj rasā*² Take of orpiment, mercury, sulphur and realger, two, one, half and quarter parts, respectively, rub them together into a thin paste with the juice of *Momordica Charantra* (*lānarella*) Apply this paste on copper plates equal in weight to the other ingredients, enclose the plates in a covered crucible, and roast in a sand-bath over a strong fire for twelve hours When cool extract the copper plates from the crucible and powder them Dose, four grains with four black peppers enclosed in a betel leaf This packet should be chewed It is given in intermittent fever with shivering fits, followed by burning and heat of skin A preparation very similar to the above in composition is called *Pliha panchānana rasā*, and used in enlarged spleen

*Svachchhanda bhanara rasā*³ Take of prepared copper and aconite equal parts, rub together with the juice of *datura* leaves and make into one-grain pills They are given with ginger juice, sugar and rock salt in fevers complicated with cerebral symptoms

1 चौद्रलोढं ताम्रजीवमन गरदोपनुत् । चक्र ।

2 शीतभञ्जिरस । तालकीदरदोद्गृहीतं पारदोगन्धक शिला । क्रमाद्भागाद्धं विहितं कारवेत्या प्रमहितम् ॥ अनेनास्य प्रमाणेन ताम्रपत्रं प्रलेपयेत् । अधोमुखी दृढे भान्दे तान्निरुधाय पूरयेत् ॥ चुल्या बालुकापावाधं अग्निं प्रज्वालयेद्वटम् । शीतं सूक्ष्मं मापीत्य नागवल्लीं दले स्थित ॥ भक्षितो सरिचैः सार्द्धं समस्तान् विषमज्वरान् । शीतदाहादिकान् हन्ति पथ्यशालीदनं पयः ॥

रसप्रदीप ।

3 स्वच्छन्दभैरवरस । ताम्रभस्मविषं हस्तेन शतधा भावितं रसे । गुच्छाद सन्निपातान् दिनमज्वरहरं परम् । आर्द्रांश्चुर्शकं रासिन् युतं स्वच्छन्दभैरवं । चौद्रं द्राक्षासिताद्यापि दक्षिणं च रुचौ ददेत् ।

रसेन्द्रसाररूपम् ।

*Mahāmritunjaya lauha*¹ Take of mercury, sulphur, talc, oipiment and realger, each one part, iron two parts, copper four parts, *yavalshāra* and *saryikāshāra* (impure carbonates of potash and soda), borax, black salt, burnt couries, and conch-shells, plumbago-root, assafætida, root of *Picrorhiza Kuroa* (*latuki*) *Amoia*, *rohataka* (*rohataka*), and *Ipomœa Turpethum* (*trivrit*), tamarind pulp, colocynth root, root bark of *Anogeissus latifolius* (*dhava*), root of *Alangium decapetalum* (*unkota*), *Achyranthes aspera* (*apāmārga*), ashes of the spikes of the palm-tree, turmeric and wood of *Berberis Aristea* (*dāruharidrā*), croton seeds, sulphate of copper *rusot* and *Oxalis corniculata* (*amlalonikā*), all in equal parts, with the exception of *rohataka* bark, which should be two parts Powder the ingredients, mix, soak the mixture in the fresh juice of ginger and *gulancha* and add to it thirty-two tolas of honey Make into six grain pills with honey One pill is given every morning in enlarged liver, spleen disease, ascites etc.

In enlargements of the abdominal viscera, designated by the term *gulma*, copper is used in a variety of forms Thus, prepared copper in doses of two grains rubbed with ginger juice and enclosed in betel leaf may be given, or the following composition may be used²

1. महामृत्युञ्जयलौहम् । शुद्धसूत सम गन्ध जारिताध'सम तथा । गन्धकादिगुण लौह' मृतताम्र' चतुर्गुणम् । दिचार टङ्गणविद्ध वराटोमथशङ्खकम् । चित्रक कुनटी तालं रामठ कटुकी तथा । रोहितक विवृत् चिञ्चा विशाला धवमङ्गठम् । अपामार्गं तालवण्ड-मस्त्रिका च निशायुगम् । कानक तुल्यकश्चैव यक्ष्मर्हरसाञ्जनम् । एतानि समभागानि चूर्णयित्वा विभावयेत् । आर्द्रकस्य रसेनैव गुडु चीखरसेन च । मधुन कूड्वैर्भाव्य' वटिकां मासमावकम् । भक्षयेत् प्रातस्तथाय सर्वोदरकुलान्छत् । शीहान ज्वरमुग्रश्च कासश्च विषमज्वरम् । कास' श्वास शिरोरोग कर्णरोग सशोथजम् । चिरञ्ज कुलजश्चैव श्लीपद हन्ति दारुणम् । रोगानीकविनाशाय धन्वन्तरिष्ठत पुरा । मृत्युञ्जयमिदं लौह सिद्धिदं शुभदं वृणाम् ॥

रसेन्द्रसारस ग्रह ।

2 केवल जारित ताम्रं शुद्धवेररसै सह । दातव्य पर्ण खण्डेन सर्वगुल्म निवारणम् ॥

रसेन्द्रसारस'ग्रह ।

*Gulma khlánana rasa*¹ Take of mercury, sulphur, copper, orpiment, borax, and *yavalshára* (impure carbonate of potash), each two tolás, tubers of *Cyperus rotundus* (*mustaka*), black pepper, ginger, long pepper, fruit of *Pothos officinalis* (*gajapippuli*), chebulic myrobalans, *Acorus Calamus* (*vacha*) and *Aplotaxis auriculata* (*kushtha*), each one tolá Powder them all, mix and soak the mixture in the juice of *Hedyotis biflora* (*parpari*), *Helophyllum Indicum* (*hastisundi*), *Achyranthes aspera* (*apámanga*) and *Trichosanthes dioica* (*patala*) respectively and dry This medicine is given in the form of a powder in doses of eight grains with the decoction of chebulic myrobalans

Several preparations of copper are recommended for use in asthma and heart disease, as for example, *Suryávarta rasa*, *Hridayánava rasa* etc

*Suryávarta rasa*² This preparation of copper is recommended for use in asthma by Sárangadhara and other writers of note. It is thus prepared One part of mercury and one of sulphur are rubbed together with the juice of *Aloe Indica* for six hours Two parts of copper leaves are pasted with the above mixture, and roasted within a closed crucible in a sand-bath for twelve hours When cool the copper leaves are taken out from the crucible and powdered Dose four grains with the addition of honey and the juice of *Adhatoda Vasica* (*vásaka*)

1 गुल्मकालाननरस । स तस्य गन्धक ताम्र तालक टङ्गण समम् ॥ तीलद्वयमित्ता
भाग यवचारु च तत् समम् ॥ सुस्तक मरिच शुण्ठी पिप्पली गजपिप्पली । हरीतकी वचाकुष्ठ
तिलैक चूर्णयेत् सुधी ॥ सर्वमेकी कृत पात्रे भावना क्रियते तत । पर्पटी वारण शुण्ठी-
सपामार्ग पटोलकै ॥ तत्पुन चूर्णयेत् पश्चात् सर्वगुह्यमविनाशनम् । गुल्माचतुष्टय स्वादं
हरीतक्य नुपानत ॥ वातिक पित्तिक गुल्म क्षैणिक च विदोषजम् दन्तजा च निहन्त्याथ
वातगुल्म विप्रिषत ॥ श्रीमद्ब्रह्मनाथेन निमित्तो विश्व सम्पदे । गुल्मकालानलो नाम्ना
रसोय सुविदुर्लभ ॥

रसेन्द्रसारस ग्रह ।

2 सूर्यावर्त्तरस । सूतक गन्धकश्चैव यामैक कन्याकाद्रवै । द्वयोस्तुल्य ताम्रपत्रं
कन्याकलकेन लेपयेत् । दिनैक ऊष्णिकायत्ने पचेत् शीत समुद्धरेत् । सूर्यावर्त्त रसोनाम-
विशुद्ध आसकासजित् ।

रसरत्नावली ।

Hrudayárnava rasa ¹ Take of purified mercury and sulphur, each one part, prepared copper two parts, rub them together for twelve hours with the decoction of the three myrobalans, and with the fresh juice of *Solanum nigrum* (*lálamáchá*) Make into pills about four grains each. These pills are administered with a decoction of the fruits of *Solanum nigrum* and the three myrobalans, prepared with two tolás, in all of the drugs and thirty-two tolás of water, which is boiled down to one-eighth, or four tolás. They are said to be useful in heart disease

Támresvara ² Take of prepared copper, mercury, borax, and iron, sulphur, and long pepper, equal parts, soak in the decoction of the leaves, bark, fruit, root, and flowers of *Azadirachta Indica* (*nimba*), of the pulp of *Cassia fistula* and of the three myrobalans Dose four grains, in skin diseases of various sorts During the administration of this medicine a cooling regimen should be observed

SULPHATE OF COPPER

Sans तुल्य, Tuttha. Vern Tutra.

SULPHATE of copper was known in India from a very remote period It is prepared by roasting copper pyrites, dissolving the roasted mass in water and evaporating the solution to obtain crystals of the sulphate It was known as a salt of

1 हृदयार्णवरस । शुद्धसूत सप्त गन्ध नृतताम् तथो. समम् । मर्दयेत् त्रिफला क्वाथे काकमाचीद्रवेर्दिनम् ॥ चनमावावटी खादिद्रसोय हृदयार्णव । काकमाचीफल कर्ष' त्रिफलाफलसयुतम् ॥ द्वात्रिंशच्छोक तोय क्वाथमष्टावशेषिकम् । अनुपान पिवेच्चाव हृद्रोगेहि कफात्मके ॥ रसेन्द्रसारस ग्रह ।

2 ताम्रेश्वर । ताम्र रस टङ्गनगम्बलीह भस्मीकृत मागधिका समेतम् । पञ्चाङ्ग-निम्बेन फलवयेण विभावित राजतरौस्तथैव ॥ निधोजयेत्तल्लुगं प्रमाण कुष्ठेषु सर्वेष्वपि रोगस धे ॥ उपाचरेत् कुष्ठ जुष्ट नान्यथा सिद्धमिच्छति ॥ रक्ष्मी क्षिग्धा क्रियाकार्थ्या-विप्ररीतो विपर्यये ॥

रसेन्द्रसारसं ग्रह. ।

Sulphate of copper dissolved in hot water is administered in insensibility from poisoning to excite vomiting. It enters into the composition of some medicines for remittent fever, such as the *Jvan ankusa* mentioned in Bhāvaprākāsa, but arsenic is the active ingredient in these preparations. In quartan fever the following, called *Chāturthahāri*,¹ is recommended by many writers. Take of orpiment, realgar, sulphate of copper, burnt conch-shell and sulphur, equal parts, rub them together with the juice of *Aloe Indica* and roast in a covered crucible. When cool extract the powder and make into four-grain pills with the juice of *Aloe Indica*. They are administered with powdered black pepper and *ghee*. Butter-milk should be taken before these pills which relieve the fever by inducing vomiting.

* तुल्य वितुन्नकक्षापि शिखिप्रौव मयुरकम् । तुल्यन्ताक्षीप धातु हि किञ्चित्ताम्रेण तद्भवेत् ॥ किञ्चित्ताम्रे गुणन्तषाद्वक्षमाण गुणश्च तत् ।

भावप्रकाश ।

1 चातुर्थकारिरस । हरिताल शिलातुल्य शङ्खचूर्णच गन्धकम् । समाश मर्हयेत्
प्राच कुमारिरसभावितम् । शरावसपुटे कृत्वा लिप्ता गजपु-
वह्नमात्रा वटीकृता । दत्त्वा शीतज्वर हन्ति चातुर्थक वि-
षीला चरेद्वटीम् । एतया वमने जाते ज्वर सद्यो विनश्येत् । अयम्

२ ग्रहणीकपाट, । तुल्य ताल रस क

रसेन्द्रस

copper, orpiment, mercury, iron, iron pyrites and borax, each five *māshās* Prepared couues two and a half *tolās* and sulphur one *tolā* Rub them all together with lemon juice and roast the mass lightly This medicine is given in chronic bowel complaints, consumption etc

Garbhavilāsa rasa ¹ Sulphate of copper enters into the composition of some medicines for diseases of the pregnant and puerperal state, such as, the *Sutikārmuda* or *Garbhavilāsa rasa*. To prepare it take of mercury, sulphur, and sulphate of copper, each one part, rub them together with lemon juice for three days Then take of cumin seeds, *kālājūrā*, long pepper, black pepper and ginger each one part, mix and make into eight-grain pills They are used in bowel complaints and indigestion during the puerperal and pregnant state

Sulphate of copper is applied to sinuses and fistula in-ano with the object of stimulating and healing them It is added to ointments for foul ulcers ² A solution of sulphate of copper is poured into the eyes in opacity of the cornea ³ The following compound powder is applied to chancres Take of mercury, sulphur, sulphate of copper, cinnabar, and sulphate of iron, equal parts, powder and mix. This composition may be used in the form of powder or paste

TIN

Sans वङ्ग, Vanga Vern Rāng

TIN, though indigenous to India, has been known from a very ancient period and is mentioned by Susruta Dr Royle

प्रत्येकं पञ्चनिष्कावराटिका । द्विनिष्कं गन्धकं सर्वं पिष्ट्वा जम्बीरजोर्द्रवै । अर्द्धभाग करीषेण पुटितं भस्मशोभनम् । योजितं ग्रहणीगुलमन्त्रयकुष्ठप्रसेचजित् ॥

1. गर्भविलासराजः । रस गन्धकतुल्यश्च चक्रह जम्बीरसहितम् । द्विजोरक विकटुना द्रियं शुद्धाचतुष्टयम् । गर्भिण्या प्लवित्तम् ज्वराजीर्णेषु केवलम् ॥ रसेन्द्रसारस ग्रह ।

2. व्रणविशोधने । कुष्ठं विवृण्वलादन्तोमागध्य. सैधवं मधु । रजनीं विकाला तुल्यं हितं व्रणनिशोधनम् ॥ चक्र ।

3. चक्षु रोगे । तुल्यकं वारिणाशुक्तं हन्ताक्षिपूरणात् ॥ चक्र ।

observed "But the Hindoos like the Egyptians have employed tin for various purposes from very ancient times. And though there is no proof of its being found in the present day in the peninsula of India yet it is abundant on the opposite coast of the Bay of Bengal, as in Burma, Tenasserim, Junkseyion and Malacca There must in very ancient times have been a trade between India and these places "

Tin is purified by melting it over the fire and pouring the melted fluid into the milky juice of *Calotropis gigantea* (*arka*) It is prepared for medicinal use by melting it in an iron cup, adding to it one-fourth part of its weight of *yavakshāra* (impure carbonate of potash) and powdered tamarind shells, and agitating with an iron rod till the mass is reduced to a fine powder It is then washed in cold water and dried over a gentle fire. The resulting product is a greyish white powder consisting chemically of oxide of tin with some impurities It is chiefly used in urinary disorders in a variety of forms Thus the simple powder may be given in four-grain dose every morning with honey, or one of the following preparations may be used

Trinetra rasa ¹ Take of prepared tin, mercury and sulphur equal parts, rub them together in an iron mortar and soak seven times respectively in the juice of *Cynodon dactylon* (*durva*) and the decoctions of liquorice root, gum of *Bombax Malabaricum* (*Mocharasa*), and *Tribulus terrestris* (*gokshura*) Then roast in a covered crucible, again soak in the above mentioned fluid medicines and make into four-grain pills This medicine is given with a decoction in milk of the above named vegetable drugs, in painful micturition

Vangesvara rasa ² Take of the preparation of mercury called

1 त्रिनेत्ररस । वज्रं सूतं गन्धकं भावयित्वा लोहपात्रे मर्दयेद्वेदकषणम् । दुर्वायष्टी शाल्मलीगोक्षुरैस्तु सुषामध्ये मूधरे पाचयित्वा । तत्तद्भूवैर्भावयित्वास्त्रयवल्गं दद्याच्छीतं पायसं वक्ष्यमाणम् । दूर्वायष्टी शाल्मलीवल्लकतुल्यैर्दुग्धे कुप्यात् पायसं तद्ददीत । प्रातः काले-
शीतं पानीयपानात् सूत्रं जातेस्यात् सुखीच क्रमेण ॥

रसेन्द्रसारस ग्रह ।

2 वज्रेश्वर । रसभक्ष्यसमायुक्तं वज्रभस्म प्रकल्पयेत् । अस्यसापेक्षं हन्ति प्रमेहान् क्षौद्रं युतम् ॥

रसेन्द्रसारस ग्रह ।

Rasasindura, and of prepared tin, equal parts and mix Dose about four grains with honey in urinary diseases and diabetes

*Vrihat Vangesvana rasa*¹ Take of prepared tin, mercury, silver and talc, sulphur and camphor each two tolas, prepared gold and pearls, each half a tola, mix them together, soak the mixture in the juice of *Eclipta prostrata* (*lesarújá*), and make into four grain-pills This medicine is said to cure all sorts of urinary diseases, and to act as an alterative tonic It is given in diabetes with the juice of the ripe fruit of *Ficus glomerata* (*udumbara*)

*Svarnavanga*² Take of mercury, sulphur and tin, equal parts, and rub them together, then take sal-ammoniac in quantity equal to all the above ingredients and rub together in a mortar Introduce the mixture in a glass bottle and expose to heat in a sand-bath. The resulting powder called *Svarna Vanga* or golden preparation of tin has a beautiful golden lustre and flaky texture It is given in urinary complaints in doses of five to ten grains with honey and the juice of emblic myrobalans This preparation is the bisulphuret of tin or mosaic gold "used in the arts as a bronze powder especially for the manufacture of paper hangings" It is noticed by Pereira The Sanscrit text for its preparation quoted below, is taken from a manuscript compilation in the possession of

1 वृद्धद्वैश्वर । वङ्गभस्मरस गन्धं रौप्यं कर्पूरसमकम् । कर्षं कर्षं मानमेषां सूताङ्गि, चेममौक्तिकम् । केशराजरसैर्भाव्यं द्विगुणाफलमानत । वृद्धद्वैश्वरोनाम सीमरोग निहन्तप्रलम् । वङ्गमूत्र वङ्गविध मूत्रमेह व्यपीदति । मूत्रातीसारछक्कश्च क्षीणानां पुष्टिवर्द्धनम् । क्षीजस्वेजस्वर स्त्रीषु सम्यक्चापि वृषायते । वल्लवर्णकर रथ्य शुक्रसञ्जनक परम् । क्षाग वा यदि वा गव्यं पयो वा दधिनिर्मितं अनुपानं प्रयोक्तव्यं बुध्वा दीपगतिं भिषक् । दद्यात् बाले च प्रौढे च सेवयेच्च रसायनम् ॥

सैषव्यरजावली ।

2 स्वर्णवङ्ग । सूतेन मर्द्दितं वङ्गी गन्धकेन सुकज्जली । नरसारेण तत् पश्चात् सर्वतुल्येन खल्लयेत् । पश्चात् त बालुका यन्त्रे काच कुप्याम् निधापयेत् । पाकं कुर्याद्भिषकं प्राप्तं स्वर्णवर्णं यदा भवेत् । तदासिद्धं विजानियात् सर्वमेहेषु योजयेत् । वातिकं पैक्षिकं चैव श्लैष्मिकं सान्निपातिकं । सर्वव्याधिं विनाशाय महादेवेन निश्चितं ॥

Kaviraja Benod Lal Sen It is evidently a recent innovation if not an imitation of the European preparation

ZINC

Sans. यमद, *Yasada* *Vern* *Dastá*

Zinc is not mentioned by the older writers, such as Susruta, nor does it enter into the composition of many prescriptions. The Bhāvaprakāsa mentions it in the chapter on metallic preparations, and directs it to be purified and reduced to powder in the same way as tin. It is said to be useful in eye diseases, urinary disorders, anæmia and asthma.

Kharpara This mineral is mentioned in most works. It enters into the composition of a number of prescriptions both for internal and external use. The article used under this name by the physicians of Upper India is a sort of calamine or zinc ore. Most of the physicians in Bengal are not acquainted with this ore, and substitute zinc for *kharpara*, that is, they consider *kharpara* as a mere synonym of zinc or *yasada*. They accordingly direct that *kharpara* should be reduced to powder by being melted over a fire and rubbed with rock salt. Zinc thus prepared is a fine yellowish grey powder consisting of carbonate of zinc mixed with chloride of sodium. In the works of the physicians of Upper India, this preparation is not described. There they use the zinc ore, which does not dissolve on the application of heat. It is simply purified by being boiled in cow's urine or soaked in lemon juice and then powdered. The Bengali physicians who substitute zinc for *kharpara* are evidently wrong, for the description of some of the preparations of this drug, as for example of the collyrium mentioned below, can not apply to metallic zinc.

Kharpara, as sold by Hindustani medicine vendors, occurs in greyish or greyish black porous earthy masses composed of agglutinated granules. On chemical analysis it was found to consist of carbonate and silicate of zinc with traces of other metals as iron, baryta, etc. *Kharpara* is described as tonic and alterative and

useful in skin diseases, fevers etc It is also much used as a collyrium in eye diseases Dose, grains six to twelve

Vasanta mālātī rasa Take of leaf gold one part, pearls two parts, cinnabar three parts, black pepper four parts, purified *lhaipara* eight parts, and rub them together Then add some butter and lemon juice and rub together till intimately mixed and no separate particles are visible Dose two to four grains with honey and long pepper This medicine is much used by Up-country physicians in chronic fever, secondary syphilis, chronic gonorrhœa, leucorrhœa etc¹

A collyrium is prepared as follows Rub some *lhaipara* in a stone mortar with water, take the dissolved watery portion, rejecting any solid particles that may have subsided to the bottom Evaporate this solution, powder the residue and soak it three times in a decoction of the three myrobals. When dry add one tenth part of powdered camphor and mix intimately This collyrium is said to be useful in various sorts of eye diseases²

LEAD

Sans सीसक, *Sisaka*. *Vern.* *Sisā*

Lead is produced abundantly in India in the shape of the sulphide called galena Galena is sold in the bazars under the name of *suma*, and is much used by the natives as a collyrium

1 सुवर्णं सुक्ता दरद मरिच मागवद्धा प्रदिष्ट खर्पराष्टौ प्रथमं सखिलं मर्द्दयेत्
मृत्क्षणेन । यावत् खेचो व्रजति विलयं निम्बुनीरेण तावत् गुञ्जादन्वं मधु चपलया मालती-
प्राग् वसन्ता ॥ सेवितेयं चरेत्तूर्णं जीर्णं च विषमन्वरम् । व्याधोनन्याथ कासादीन् प्रदीप्तं
कुर्वते ऽनलम् । वैद्यविनीद ।

2 खर्परवर्त्ति । शिलाया रसकं पिष्ट्वा सम्यगाप्लाव्य वारिणा । गृहीयात् तज्जलं
सर्वं त्यजेत्तूर्णं मधीगतम् । शुष्कं च तज्जलं सर्वं पर्यटौ सन्निभं भवेत् । विचूर्णं भावयेत्
सम्यक् त्रिवेले त्रिफलारसै । कर्पूरस्यरजस्तप्त दशभाशेन निक्षिपेत् । अञ्जयेत् नयनेन
सर्वदोषहरं हितम् । सर्वरोगहरं चूर्णम् चक्षुषः सुखकारि च ॥

साङ्गधर.

The red oxide of lead, or minium, was manufactured by the ancient Hindoos. It is known by the name of *sindura*, and is used by all married Hindu women as a paint for the forehead. Litharge or massicot, called *mundasang* in Hindustani, has no proper Sanskrit name and was unknown to the ancients. In some recent compilations it is occasionally introduced as a component of some compound preparations. Carbonate of lead, called *saffedá*, now common in the bazars and extensively used as a paint, is not mentioned by the ancient writers. The name *saffedá* is of Persian origin, and the article itself is an imported one.

Lead is purified and reduced to powder in the same way as tin. Lead thus prepared is a gritty powder of a greyish red colour. Chemically it is an impure carbonate of lead. Its properties are said to be similar to those of tin. It is seldom used internally except as a component of compound medicines containing a number of other metals. A probe made of lead is preferred for applying collyria to the eyelids.

The red oxide of lead, called *sindura*, is used externally in eruptive skin diseases in the form of ointment or liniment. Thus *sindura* and powdered black pepper mixed with butter is recommended to be applied in chronic eczema. An oil called *Sindurádya taila*¹ is thus prepared. Take of mustard oil one seer, water four seers, minium four tolas and cumin seeds eight tolas. Boil together in the usual way. This oil is used in eczema and other eruptive skin diseases.

GALENA

Sans अञ्जन, Anjana सौविराञ्जन, Sauviránjana.

Galena or sulphide of lead is called *anjana* or *sauviránjana* in Sanskrit, and *krishna surmá* in Vernacular. It is called *anjana*, which literally means collyrium or medicine for the eyes, from the

1 सिन्दुराय तैलम् । सिन्दुराद्यपि पिष्ट्वा जीरकस्य फलं तथा । कटुवैलात्
पचेन्मानी सद्यः पामादर परम् ॥ चक्र ॥

circumstance of its being considered the best application or cosmetic for them. The other varieties of *anjana* mentioned are *srotonjana*, *pushpánjana* and *rasánjana*.

सौवीरज्ञन *Sauvīrānjana* is said to be obtained from the mountains of Sauvira, a country along the Indus, whence it derives its name. The article supplied under its vernacular name *surma* is the sulphide of lead ore. *Surma* is usually translated as sulphide of antimony, but I have not been able to obtain a single specimen of the antimonial ore from the shops of Calcutta and of some other towns. The sulphide of antimony occurs in fine streaky, fibrous, crystalline masses of a radiated texture. The lead ore on the contrary, occurs in cubic masses destitute of rays and is tabular in its crystalline arrangement.

स्रोतीज्ञन *Srotonjana* is described as of white colour, and is said to be produced in the bed of the Jamuná and other rivers. It is called *saffed surma* in the vernacular, and the article supplied under this name by Hindustani medicine vendors is calcareous or Iceland spar. It is used as a collyrium for the eyes, but is considered inferior to the black *surma* or galena.

पुष्पाञ्जन *Pushpānjana* is described as an alkaline substance. I have not met with any vernacular translation of this word, nor with any person who could identify or supply the drug. Wilson, in his Sanskrit-English Dictionary, translates the term as calx of brass, but I know not on what authority.¹

रसाञ्जन *Rasānjana* is the extract of the wood of *Berberis Asiatica* called *rasot* in the vernacular. It will be noticed in its place in the Vegetable Materia Medica.

Sauvīrānjana or galena is chiefly used as a cosmetic for the eyes, and is supposed to strengthen these organs, improve their appearance and preserve them from disease. It enters into the composition

1 सौवीरज्ञन क्षण कालनील सुवीरजम् । स्रोतीज्ञन तु स्रोतीज नदीज यासुन वरम् । सौवीर ग्राहि सधुर चक्षुष्यं कफवातजित् ॥ सिद्धाक्षयासुनुच्छीत स्रोतीज्ञनमपी-
दृशम् ॥ पुष्पाञ्जनं पुष्पकेतु रीतिज कुसुमाञ्जनम् । पुष्पाञ्जन चारसुण्य काचार्सपटला-
पहम् ॥

of some collyria for eye diseases Galena, heated over a fire and cooled in a decoction of the three myriobalans for seven times in succession, is rubbed with human milk and used in various eye diseases¹ Another collyrium prepared with lead is as follows To one part of purified and melted lead, add an equal portion of mercury and two parts of galena, rub them all together and reduce to powder Now add camphor, equal in weight to one-tenth part of the mass and mix intimately This preparation is said to be useful in eye diseases² From the composition and uses of lead and galena above described it would seem that by the term *sumā* the Hindus meant sulphide of lead, and not sulphide of antimony as is generally supposed.

BELL METAL AND BRASS

BELL metal, (काश, *Kāṁsa*), as used in medicine, is an alloy of copper and tin Brass, (पित्तल, *Pittala*) is an alloy of copper and zinc They are sometimes used in combination with other metals, and are regarded as tonic and alterative They are purified and reduced to powder in the same way as copper. The following is an example of a preparation containing bell metal

Nityānanda rasa.³ Take of mercury, prepared copper, iron, bell-metal and tin, purified oipiment, sulphate of copper and calcined

1 अग्निप्रसन्न सौवीर निषिञ्चेत् विफलारसै । सप्तवेलेन्तधास्त्रयै स्त्रीणां चित्तं
विचूर्णितम् । अञ्जयेन्नयेतेन प्रत्यहञ्चक्षुषीर्हितम् । सर्वानक्षिफिकारा स्तु हन्यादेतन्न-
सशय ॥

शाङ्गधर ।

2 शुद्धे नागे द्रुते तुल्य शुद्ध सूत विनिक्षिपेत् । कृष्णाञ्जन तथोत्तुल्य सर्वमेकत्र
चूर्णयेत् । दशमांशेन कर्पूर तस्मिन् चूर्णे प्रदापयेत् । एतत् प्रत्यञ्जन नेत्रगदाजिघ्रयना-
मृतम् ।

शाङ्गधर ।

3 नित्यानन्दरस । द्विङ्गुलान् सम्भव सूत गन्धक मृतताम्रकम् । काश वङ्ग हरि-
ताल तुल्यं शङ्ख वराटकम् । विकटु विफलालौह विडङ्ग पटुपञ्चकम् । चविकापिप्पली-
मूल हृदुषाच वचातथा । शटीषाटादेवदार एलाच वृद्धदारकम् । एतानि सप्तभागाणि

conch-shell and couries, sulphur, ginger, long pepper and black pepper, the three myrobalans, *babeung* seeds, the five salts; namely, rock, sun-dried sea, black, *sonchál* and Sambar Lake salts, *Chavica officinarum* (*chavila*), long pepper root, *havusa* (an aromatic substance), *Acorus Calamus* (*vacha*), *Curcuma zedoaria* (*sati*), *Stephania hernandifolia* (*páthá*), *Pinus deodara*, cardamoms, seeds of *Argyrea speciosa* (*vriddhya dārala*) each two tolás, rub together with the juice or decoction of chebulic myrobalans and make into ten-grain pills They are given in hydrocele and elephantiasis of the scrotum The remark that, when a disease has a long list of drugs for curing it, one may take it for an incurable one, is well exemplified in this medicine for elephantiasis of the scrotum.

MICA OR TALC.

Sans अभ्र, *Abhra*

FOUR varieties of talc are described by Sanskrit writers, namely, white, red, yellow and black Of these the white variety is used as a substitute for glass in making lanterns etc, and the black variety called *vajrábhra* is used in medicine It is of a black colour, hard and heavy, and generally known by the name of *kāshnábhra* or *sheábhra*

Talc is purified in the following manner It is first heated and washed in milk. The plates are then separated and soaked in the juice of *Amaranthus polygamus* (*tandulia*) and *lángika* for eight days Talc thus purified is reduced to powder by being

सचूर्णं वटिकां कुरु । हरीतकीरसं दत्त्वा पञ्चगुह्यामितां शुभाम् । एकैकां खादयेन्नित्यं
श्रीतलच्च जलं पिबेत् । श्लेष्मदं कफवातोत्थं रक्तमासाश्रितञ्च यत् । मेदीगतं धातुगतं
हन्तव्यं न संशयः । अर्बुदं गण्डमालाञ्च अन्तर्गच्छि चिरन्तनीम् । वातवृद्धिं पित्तवृद्धिं
श्लेष्मवृद्धिं निहन्ति च । अग्निवृद्धिं करोत्येष बलवर्धकरः परः । ओषध्निहन्नाथेन निश्चितो-
विश्वसम्पदे । नित्यानन्द रसो नाम यथोक्तं श्लेष्मदे गदे ॥

रसेन्द्रसारसंग्रहः ।

rubbed with paddy within a thick piece of cloth, when the powdered talc passes through the pores of the cloth in fine particles and is collected for use. Talc, thus reduced to powder, is called *dhányābhṛaka*. It is prepared for medicinal use by being mixed with cow's urine and exposed to a high degree of heat within a closed crucible, repeatedly for a hundred times. Sometimes the process is said to be repeated a thousand times. When this is the case, the preparation is called *sahasra putita abhra* and sold at high price (eight rupees per tola). It is considered to be of superior efficacy. Prepared talc is a powder of brick-dust colour and a saline, earthy taste. Chemically it consists of silicate of magnesia with iron in excess. It is considered tonic and aphrodisiac and is used in combination with iron in anaemia, jaundice, chronic diarrhoea and dysentery, chronic fever, enlarged spleen, urinary diseases, impotence etc. Its efficacy is said to be increased by combination with iron. Dose, grains six to twelve.

*Jvarāsanā rasa*¹ Take of mercury, sulphur, rock salt, aconite and copper, one part each, prepared iron and talc, five parts each, rub together with the juice of *Vitex Negundo* leaves, then add one part of black pepper and make into two-grain pills. They are administered with the juice of betle leaves in chronic fever and enlarged spleen.

*Agnikūmāra rasa*² Take of mercury, sulphur, borax, iron,

1 ज्वराशनि रस । रसं गन्धं सैन्धवञ्च विषं ताम्रं समं समम् । सर्वं चूर्णसमं लौहं तत्समं शुद्धमधकम् । लौहे च लौहदण्डेन निर्गुणोत्तरसेन च । मर्हयेद् यत्र तपसात् मरिचं सुतनुत्यकम् । नागवह्मपादलेनैव दातव्यं रक्तिसम्भितम् । सर्वज्वरहरं त्रैलोक्यं । ज्वरान् हन्ति सुदारणान् । कासश्चासं महाघोरं विषमासं ज्वरं वमिम् । घातुस्थं प्रबलं दाहं ज्वरं दीपं चिरोद्भवम् । यक्ष्मदुग्मोदरं शीहं श्वयथुञ्च विनाशयेत् ॥

भैषज्यरत्नावली ।

2 अग्निकुमार रस । रसं गन्धं विषं व्योषं टङ्गणं लौहभस्मकम् अजनीदाऽहिफेणञ्च सर्वतुल्यं नृतामकम् । चित्रकत्वक्कसायेण मर्हयेद्गन्धमात्रकम् । मरिचाभा वटी खादेद् जीर्णं ग्रहणी तथा । नाशयेद्भावसन्देहो गुह्यो भेदश्चिकित्सितम् ॥

भैषज्यरत्नावली ।

aconite, ginger, long pepper, black pepper, *ajowan* and opium each one part, prepared talc ten parts, rub together for three hours with the decoction of *Plumbago rosea* (*akta chitraka*) and make into pills of the size of black peppers. This preparation is used in chronic diarrhoea and indigestion.

*Sulachandamrtaḍbhra*¹ Take of prepared talc eight tola's, rub it with eight tola's each of the fresh juice or decoction of the following drugs, namely, pulp of *Ziziphus Jujuba* (*kola*), *Chavica officinarum* (*chavikā*) root of *Andropogon muricatus* (*usira*), pomegranate fruit, lemon juice, emblic myrobalan and *Oxalis corniculata* (*amlalonikā*), and make into pills about six grains each. This medicine is used in loss of appetite, disinclination for food, dyspepsia, vomiting, urinary diseases, anasarca and debility. It is tonic, alterative and aphrodisiac. The preparation called *Kandarpa lumārābhra* is very similar to the above in composition. In disorders of the urine the following called *Harisanhara rasa*² is used. Soak some prepared talc in the juice of emblic myrobalans seven times in the course of a week and make into two-grain pills.

*Arjunābhra*³ In heart disease talc is used with the juice of the *arjuna* bark which last is considered a specific for this complaint. *Arjunābhra* is prepared by soaking some prepared talc in the juice of the bark of *Terminalia Arjuna*, seven times, and dividing

1 सुलोचनानृतान्धम् । पलं सुजीर्णं गगणन्तु वज्रक तेजोवतो कीलं सुशौरदाडिमम् ।
धावाम्बुलोनीरुचकं शृङ्गकृसे पलोन्मितैर्मर्दितमेव सेवितम् । अरीचकं वातकफात्रिदोषजं
पिच्छोद्भव गन्धसमुद्भवं नृणाम् । कासं खराघातं सुरोगहं रुजं श्वासं वलासं यक्षतुभगन्दरम् ।
क्षीद्वान्निमान्दं श्वयथुं समीरणं मेहभृशं कुष्ठमहमृदरक्षणीन् । शूलान्धपित्तं चयरीगसुद्वतं
स रक्तपित्तं वमिदाहमश्मरीम् । निहन्तिचाशासि सुलोचनानृतं वलप्रदं वृषमिदं
रसायनम् ।

रसेन्द्रसारस ग्रह ।

2 हरिशङ्कर रस । मृताधं सामलकजैः सप्ताहं भावयेत् रजः । हरिशङ्करं सप्त
खादुं भूतं सर्वप्रमेहजित् ।

रसेन्द्रसारस ग्रह ।

3 अर्जुनाध । सहस्रं पुटितैः सिद्धं वज्राधमर्जुनत्वच । सत्त्वैर्विमर्दितं सप्तदिनं
खले विशोषितम् । क्षयाशुष्कावटोकार्या नान्नेदमर्जुना भक्तम् । हृद्रोगं सर्वशलाशी-

the mass into two-grain pills In phthisis and chronic bronchitis the following called *Sringárábhra*¹ is used Take of prepared talc sixteen tolás, camphor, cardamoms, nutmegs, mace, cloves, root of *Pavonia odorata* (bálá), *Pothos officinalis* (gajapippul), leaves called *teppatīa*, *jatamansi* root, leaves of *Pinus Webbiana* (tálsa-patīa), cinnamon, flowers of *Mesua faria* (nágakesara), root of *Aplotaxis auriculata* (kushthā), flowers of *Woodfordia floribunda* (dhátakī) and purified sulphur, each one tolá, mercury half a tolá Powder the ingredients, mix and make into four-grain pills with water One pill at a time is to be chewed with betle leaves and ginger, and a little water is to be taken afterwards The pills may be taken three or four times daily The diet should consist of ghee, milk and broth

*Mohalakshmi bilāsarasa*² This preparation is used as an alterative tonic and aphrodisiac in general debility, impotence etc To prepare it, take of talc eight tolás, mercury four tolás, sulphur four tolás, tin two tolás silver one tolá, orpiment one tolá, copper half a tolá, gold half a tolá, camphor, nutmegs and mace, each four tolás, seeds of *Argyrea speciosa* (bradhánaka) and of *datūra*, two tolás each Mix together, rub with the juice of betle leaves and

हृत्सासक्तदौरोचकान् । अतिसार मन्दमग्नि रक्तपित्त क्षतक्षयम् । शीथोदराण्युपित्तं
विषमज्वरमेव च । हृत्सासक्तानपिरोगाश्च वक्ष्यं वृष्यं रसायनम् । अनुपान पिवेच्च हृद्दोगे
च कफात्मके । रसेन्द्रसारसंग्रहः ।

1 शृङ्गाराम् । शुद्ध कृष्णाम्बुचूर्णं द्विपलपरिमितं शण्णमानं यदन्यत् । कर्पूरं
जातीकोषं सज्जलमिमकनातेजपत्रं लवङ्गम् । सासीतालौघचोर्चोर्गजकुसुमगदं धातकीचेति
तुल्यम् । एलाजातीफलाख्यं क्षितितलविधिना शुद्धगन्धाम्बुकोलम् । कीलाङ्गं पारदस्य
प्रतिपदविहितं पिष्टमेकवर्गमित्यम् । पानीयेनैव कार्यं परिणतं चनकस्त्रितुल्याश्च वक्ष्यम् । प्रातः
खाद्याद्यतश्च स्तदनुखलुकियत् शृङ्गवेरसपर्णम् । पानीयं पीतमन्ते ध्रुवमपहरति क्षिप्रमेतान्
विकारान् । कोष्ठेदद्याग्निजातान् ज्वरमुदररुजा राजयक्ष्माश्च वक्ष्यम् । काशश्चासः सशीघ्रं
नयनपरिभवमेहमेदीविकारान् ।

सारकौसुदी ।

2 महालक्ष्मीविलासः । पलं कृष्णाम्बुचूर्णस्य तदङ्गं गन्धपारदम् । वङ्गमस्य तदङ्गं
तदङ्गं तारकस्य च । तत् समं हरितालञ्च तदङ्गं ताम्रमन्त्रकम् । रसतुल्यं कर्पूरञ्च
जातीकोषफलं तथा । वृद्धदारकबीजञ्च बीजं स्वर्णफलस्य च । प्रत्येकान् कार्ष्णिकान्

make into pills of about six grains each. Another preparation of composition similar to the above is called *Manmathābhra rasa*. It is, as its name implies, intended for the votaries of Cupid

*Gāritakushthārī rasa*¹ Take of mercury, sulphur, prepared copper and iron, bdellium, plumbago root, *silājatu*, nux vomica, and the three myrobalans, each one part, prepared talc and the seeds of *Pongamia glabra* (*karanya*), four parts each, rub together with honey and *ghee*, and preserve in an earthen pot smeared with *ghee*. Dose about a drachm. It is given in leprosy with ulceration of the toes and fingers. The diet should consist of fine rice, milk, sugar and honey. The patient must live apart from his wife

ALUM

Sans स्फटिकारि *Sphatikārī*,

ALUM is prepared from alum shale in the Punjab and Behar. It is not mentioned by Susruta, in his list of metals, but later writers give its synonyms and uses. It is described as an astringent, and as useful in leucorrhœa, strangury, vomiting, ulcers, white leprosy, eye diseases etc. It enters into the composition of several applications to the eye in combination with *rusot*, opium etc, for which see *Berberis Asiatrica*. It is seldom used internally

भागान् मृतखर्णश्च शाणकम् । नागवल्लीरथै पिष्ट्वा त्रिगुञ्जाफलमानत । वटीकार्यानुपानश्च
व्याधि वीच प्रयोजयेत् । निहन्ति सन्निपातोत्पान् गदान् घोरान् सुदारुणान् । प्रोक्त
प्रयोगराजीय अगस्त्रिन महामना । सद्यालक्षीविस्त्रासीय वासुदेवी जगद्गुरु । अस्य
प्रसादाद् भगवान् लक्ष नारीषु वल्लभः ।

रसेन्द्रसारसंग्रह ।

1 गलितकुष्ठारि रस । रसीवलिस्तान्मस्य पुरोऽग्निशिलाजतु स्ताद्विपत्तिदुःख ।
यराच तुल्य गगण करञ्जबीज पृथक् भागचतुष्टय । समर्थ सर्वमधुनाष्टतेन घृतस्यपात्रे
निहित प्रयत्नात् । कपे भजेत् प्रत्यहमस्य पथ्य शाल्योदन दुग्ध मधुव्रयश्च । विशीर्ण-
कर्णाङ्गुलिनासिकोऽपि भवेदनेन स्वरतुल्यमूर्तिः । दारा परित्याग इक्ष्मदिष्टो जलौदन

सर्व निवद्धमूलि ॥

भावप्रकाशः ।

BORAX

Sans टडन, Tanlana Vern Sohágá

BORAX was known to the ancient Hindus from a very remote period, and is mentioned by Susruta. It is brought from Thibet across the Himalaya, and from Nepal, and is used in medicine as well as in the arts. It is purified for medicinal use by being steeped for a night in *lángka*, and dried in the sun. Borax is said to be useful in loss of appetite, painful dyspepsia, cough, asthma, skin diseases and diarrhoea. It is also used for procuring abortion and promoting uterine contractions. Borax enters into the composition of numerous formulæ for dyspepsia, such as the *Amritakalpa rasa*, *Tankanádr vatr* etc.

Amritakalpa rasa ¹ Take of mercury, sulphur and aconite, one part each, borax three parts, soak them for three days in the juice of *Wedelia calendulacea* (*bhringarāja*) and make into two-grain pills. This medicine is said to be useful in loss of appetite, indigestion and dyspepsia. *Tankanádr vatr* contains the above ingredients with the addition of ginger and black pepper, all in equal parts.

Chandrámrta rasa ² Take of the three myrobalans, ginger, long pepper and black pepper, *Chavica officinarum* (*chaviká*), coriander, cumin seeds and rock salt, each one tolá, and rub them together with goat's milk. Then add mercury, sulphur and iron, each two tolás, borax eight tolás and black pepper four tolás, all in fine powder, mix and make into pills or boluses about eighteen grains each. They are administered with goat's milk in chronic bronchitis and various sorts of cough with copious expectoration. Along with

1 अमृतकल्परस । पारदं गन्धकञ्चैव समानौ कज्जलीकृतौ । तथोरदं विषशुद्धं तत् समं टङ्गणं भवेत् । भृङ्गराजं द्रवैर्भाव्यं त्रिदिनं यवतः पुनः । सुद्वप्रमाणा वटिका कर्तव्याभिषजावरे । वटीद्वयं हरेच्छूलं अग्निनान्द्यं सुनिश्चितं । अजीर्णं जरयत्याशु धातुपुष्टिं करोति च । नाना व्याधिं हराचैव वटीं गुरुवचो यथा । अनुपानविशेषेण सम्यग् गुणकरी भवेत् ॥
रसेन्द्रसारस ग्रहः ।

2 चन्द्रामृतसरस । त्रिफला त्रिकटुचव्यं धान्यं जीरकं सैन्धवम् । प्रत्येकं तौलकं प्राञ्चं क्षाणीदुग्धेन पेषयेत् । रसगन्धकं लौहानि प्रत्येकं कार्ष्णिकानि च । टङ्गणस्य पलदत्वा

these pills a decoction made of *gulantha*, *Adhatoda vasica* (*vāsaka*), *Clerodendron Siphonanthus* (*brahmajashtri*), *Cyperus rotundus* (*mustaka*), and *Solanum Jacquinii* (*kantakāri*) should be administered

Borax enters into the composition of several prescriptions for diarrhoea, along with opium, such as the *Grahamkupaṭa rasa* and *Nripavallava rasa*, for which see Opium.

A mixture of equal parts of borax, long pepper and *babering* seeds is given for five days, at the menstrual periods for the purpose of preventing conception.¹ It is also used for procuring abortion and inducing labour pains. Borax rubbed into a paste with the root of *Vallaris dichotoma* (*bhadruvalli*) is applied to diseased nails

LIME

Sans शङ्खभस्म *Sankha bhasma* चूर्ण *Churna*

SEVERAL sorts of lime are used in Hindu medicine. Thus we have lime from limestone called *churna*. Then we have lime from calcined cowries, conch-shells, bivalve-shells, and snail-shells, called respectively, *Kapardaka bhasma*, *Sankha bhasma*, *Sukta bhasma* and *Sambuka bhasma*. These shells are purified by being soaked in lemon juice, and are prepared for use by being calcined within covered crucibles. Lime is used internally in dyspepsia, enlarged spleen and other enlargements in the abdomen, and externally as a caustic. Lime enters into the composition of a great many prescriptions for different sorts of dyspepsia. The following are a few examples.

नरिचस्य पलाङ्किक । नवगुञ्जा प्रमाणेन वटिका कारयेद् भिषक् । एकका वटिका खादेत् रक्तीतपल जलसुताम् । नीलीतपल रमेर्व्यापि कुलत्थस्य रसेन वा । ह्मागीचीरेण मण्डेन केशराजरसेन वा । निहन्ति विविधं कास यत्साणमपिदारणम् । वासा गुडूचिका भार्गीमुखक कण्टकारिका । समभाग कतक्ताथ प्रत्यहं भक्षयेदनु ॥

रसेन्द्रसारसंग्रह ।

1 पिप्पली विडङ्ग टङ्गण समचूर्णं या पिवेत् पयसा । ऋतु समये नहि तस्या गर्भः सञ्जायते कापि ॥
भा.व. प्रकाशः ।

Amrita vati ¹ Take of calcined cowries five parts, aconite two parts, black pepper nine parts, and make into two-grain pills. They are used in loss of appetite and indigestion

Agnikumāra rasa ² Take of borax, mercury and sulphur, each one tolá, aconite, calcined cowries and conch-shells, each three tolás, black pepper eight tolás, rub them together for twelve hours with lime juice and make into twelve-grain pills. This medicine is said to increase the appetite and cure indigestion. Calcined conch-shell in half a drachm doses is recommended to be taken with lime juice in enlarged spleen ³

Lime is used in various combinations as a caustic for different diseases. Thus a mixture of conch-shell lime, impure carbonate of soda (*sarjálá*) and the ashes of *Raphanus sativus* (*muláka*), is applied to tumours and enlarged glands ⁴. A mixture of lime, carbonate of soda, sulphate of copper and borax is applied as a caustic to tumours and warts. Lime enters into the composition of depilatories. Thus take of conch-shell lime three tolás, orpiment and the ashes of *Butea frondosa* (*palása*), one tolá each, and rub them together with the juice of plantain stalks or of *Calotropis gigantea* (*arka*). This paste is applied seven times to the part from which the hair is to be removed ⁵

1 अमृतवटी । अमृतवराटक सरिचैर्विपचनवभागिकै क्रमश । वटिकाससुद्वमाना-
कफपित्ताग्निमान्द्रहरिणी । भैषज्यरत्नावली ।

2 अग्निकुमारोरस । रसेन्द्रगन्धौ सृष्टद्वयेन सम विष योज्य मिहविभागम् । कपर्द-
शृङ्गाविहनेत्रभागौ सरिच मावाद्यगुण प्रदेयम् । सुपक्वजम्बीरसेनष्ट सिद्धो भवेदग्नि कुमार-
रस । विमूर्चिकाजीर्ण समीरणात् दद्यात् द्विवल्ल ग्रहणी गदे च ।

भैषज्यरत्नावली ।

3 रसेन जम्बीरफलस्य शृङ्गनाभिरजः पीतमवश्यमेव । शाणप्रमाण शमयेदशेषं
छीहामय कूर्मसमानमाय । भावप्रकाशः ।

4 सर्जिकासुलकचारः शङ्खचूर्णसमन्वितः । प्रलेपोविहितस्त्रीक्ष्णोहन्ति ग्रन्थं बुदा-
दिकान् । चक्रदत्तः ।

5 तालक शाणयुग्मं स्वात् षट्शाणं शङ्खचूर्णकम् । दिशाणिक पलाशस्य चार
दत्ता प्रमर्दयेत् । कदलीदण्डतोयेन रविपत्ररसेन वा । अस्यापि सप्तभिर्लेपैर्लोम्भाशतन-
मुत्तमम् । भाईधरः ।

CHLORIDE OF SODIUM.

Sans. लवण, Lavana

SUSRUTA describes the following varieties of salts, viz., 1 *Sáindhava*, 2 *Sámudra*, 3 *Vit* or *Vid*, 4 *Sauvarchala*, 5 *Romaka*, 6 *Audbhida*, 7 *Gutriká*, 8 *Pánsuja*, also called *Ushasuta*. The first five in the above list generally pass by the name of *pancha lavana* or the five salts, and are often used in combination. The other varieties are rarely used in medicine.

सैन्धव *Sáindhava* literally means produced in Sinde, or the country along the Indus. The term is applied to rock salt which is regarded as the best of salts. Three varieties of rock salt are recognized, viz., white, red and crystalline. The pure white crystalline salt is preferred for medicinal use. For alimentary purposes also, rock salt is considered superior to the other varieties. It is regarded as digestive, appetizing, sweet and agreeable, and is much used in dyspepsia and other abdominal diseases.

सामुद्र *Sámudra* literally means produced from the sea. The term is applied to sun-dried sea-salt, manufactured in the Madras Presidency. It is called *karkach* in the vernacular. Orthodox natives, who consider common salt as impure from the circumstance of its having undergone the process of boiling, and who take only rock salt, substitute *karkach* for rock salt, if the latter is not available. Sun-dried sea-salt is described as somewhat bitter and laxative. In other respects its properties are said to resemble those of rock salt.

विट्-लवण *Vit lavana* occurs in dark red shining granules somewhat resembling coarsely powdered lac in appearance. It has a mild, saline and somewhat nauseous taste. Dr Fleming says "that the following process for making this salt was communicated by a native druggist to Mr Turnbull at Mirzapore and was actually performed in his presence. Fifty six pounds of sambar salt are mixed with twenty ounces of dried *aonlás* (*emblic myrobalans*). One fourth of these materials is put into a round earthen pot with a narrow mouth, which is put in a fire-place made of clay. The fire-place has a hole at the bottom for introducing the firewood. After the fire has been lighted about an hour, and the materials, in the

pot, appear to be heated, the rest of the materials is added by degrees. The whole is then exposed to a strong red heat for about six hours. The fire is then allowed to die away, and the pot to cool, which upon being broken is found to contain about forty-eight pounds of *calanemuc* or *bitlaban*”*

Vit lavana, besides possessing the properties of salts in general, is said to be carminative and stomachic, and to be useful in enlarged spleen, dyspepsia, indigestion, bowel complaints, etc

सौवर्चल *Sauvarchala* called *sonchal* or *kālānīmak* in Hindustan is said to be aromatic, agreeable and digestive, and useful in the same sort of cases as *vitlavana*. It is described in the Report on Punjab Products as “a dark colored salt said to be made by dissolving common salt in a solution of “*sajramati*” (crude soda) and evaporating it, this salt contains chloride of sodium, sulphate of soda, caustic soda and a little sulphate of sodium, but no carbonate of soda.” *Sonchal* salt is not available in the drug shops of Calcutta. Some Bengali physicians give this name to a crystalline form of rock salt, but up-country physicians always translate *sauvarchala* as *sonchal* or *kālānīmak*. The latter interpretation appears also to obtain in the Punjab where a specimen of *sonchal* salt from Ram Sing, a noted druggist, is said in the Report on Punjab Products, “to be a salt of the same kind as *kālānīmak*”

रोमक *Romaka*, also called शकम्बरी *Sākambārī*, is the salt produced from the Sambal Lake near Ajmere. The name *romaka* is said to be derived from a river called Rumā. It is obtained by the evaporation of salt water in the shape of clear rhomboidal crystals. It has a pungent taste, and is considered laxative and diuretic, in addition to possessing the other properties of salts. It is said to be the best and purest of evaporated salts.

औद्धिद् *Audbhīd*, that is, produced of itself from the earth, is the name applied to a salt produced as an efflorescence on *reh* lands. The salt is called *reha* or *kalan* in the vernacular. It consists principally of sulphate of soda with a little chloride of sodium, and is described as alkaline, bitter, pungent and nauseating. It is said to be so abundant in some parts of the Punjab as to render

the soil quite barren Some physicians or rather writers substitute this article for *sambar* salt in the composition of *pancha lavana* or the five salts

गुटिका Gutikā This salt, mentioned by Susruta and some later writers, cannot be identified at present In the treatise called *Dravyaguna* by Chakra Datta, his commentator Siva Dass says that the name *gutikā* is derived from the circumstance of the salt assuming a hard, granular or nodular shape from boiling So that it is a sort of boiled salt Susruta describes it as stomachic, digestive and laxative

पांसुज Pānsuja or *Uhasuta* literally means, salt manufactured from saline earth *Pāngā* or common salt, manufactured from earth impregnated with salt water, would come under this head

Rock salt with warm water is used as an emetic¹ The different varieties of salt enter into the composition of a great many medicines for dyspepsia, indigestion, enlarged spleen and other tumours in the abdomen The following are a few illustrations.

Nārikelakshāra² Take a cocoa-nut fruit full of water, make a hole in it and fill the cocoa-nut with rock salt, that is, dissolve the salt in its water Then close the opening, cover the nut with a layer of clay and roast it in a pit of fire The salt thus roasted is esteemed as a valuable medicine in the form of dyspepsia which is attended with pain, two or three hours after meals It is given with the addition of long pepper. Dose about a quarter tola

Bhāskara lavana³ Take of *karkach* salt sixteen tolas, *sonchal* salt ten tolas, black salt, rock salt, coriander, long pepper, long

1 वमन लवसे पूर्व खवणेनीषवारिणा ।

चक्रदत्त ।

2 नारिकेलचारा । नारिकेल स तीयस खवणेन प्रपूरितम् । विपक्तमग्निना सत्यम् परिणामजशूलनुत् । वातिक पित्तिकश्चैव द्वैमिक सान्निपातिकम् ।

चक्रदत्त ।

3 भास्करलवणचूर्ण । सासुद्रलवण कार्यमष्टकर्षमित तुधे । पञ्चसौवर्ण ग्राह्यं विड्सेन्धवधान्यकम् । पिप्पलीपिप्पलीमूल क्षणजीरकपत्रकम् । नागकेशर तालीशमन्त्र-वेतसक तथा । द्विकर्षमात्राण्येतानि प्रत्येक कारयेद्बुध । सरिच जीरकं विश्वमेकैक कर्षमात्रकम् । दाडिम स्याच्चतुष्कर्षं लवणेचार्द्धकार्षिके । बीजपूरसेनैव भाषितं

pepper root, leaves called *teppatia*, seeds of *Nigella sativa* (*krishnajwala*), leaves of *Pinus Webbiana* (*talasa patra*), flowers of *Mesua ferrea* (*nágakesura*), fruits of *Calamus fusciculatus* (*amlaveasa*), four tolás each, black pepper, cumin seeds and ginger, two tolás each, pomegranate seeds eight tolás, cinnamon and cardamoms one tolá each, powder, mix and soak seven times in lemon juice. Dose about a diachm with whey or wine, in enlarged spleen and other tumours in the abdomen, dyspepsia, loss of appetite, constipation etc. Rock salt is applied to opacities on the cornea, either singly or in combination with other drugs, as in the following. Take of the seeds of *Acacia Lebbek* (*sirisa*), long pepper, black pepper and rock salt in equal parts, rub them together with water, and make into pellets or pencils. These are rubbed on opacities of the cornea

CARBONATE OF POTASH

Sans यवचार, *Yavakshára*

THIS article, as well as the next one called *sarjvalakshára*, is mentioned by Susruta, and has been used in medicine from a very remote period. *Yavakshára* is prepared by reducing to ashes the green spikes of the barley (*Hordeum hexastichum*), dissolving the ashes in water, straining the solution through thick cloth, and evaporating it over the fire. The resulting salt is a clear amorphous powder with a saline and partly acid taste. Chemically it is carbonate of potash with some impurities. *Yavakshára* is described as stomachic, laxative and diuretic. It is used in urinary diseases, dyspepsia, enlarged spleen and other enlargements of the abdominal viscera. A decoction of chebulic myrobalan and *rohataka* bark is given with the addition of carbonate of potash and long pepper in enlarged spleen and liver, and in tumours in the abdomen called

सप्तवारकम् । एतच्चूर्णीकृतं सर्वं क्षवणं मास्तरामिधम् । शाणप्रमाणं देयन्मुसुतक्रसुरासवै ।
वातश्चेप्समनवगुणं स्त्रीहानमुदरचयम् । मन्दाग्निं नाशयेदितद्दीपनं पाचनं परम् । सर्वलोका-
हितायै मास्करेणोदितं पुरा ।

शाङ्गधर ।

*gulma*¹ In strangury or painful micturition, carbonate of potash with sugar is considered a very efficacious remedy² It enters into the composition of numerous saline medicines

CARBONATE OF SODA.

Sans सज्जिकाचार *Sarjkalshāra*. *Vern.* *Sājji*.

Sājji or *bailla* is produced from several species of salt worts growing in brackish soil in the Punjab and North West Provinces. The process of manufacturing *sājji* is described in full detail in the "Report on Punjab Products" The plants are cut down during the cold months, dried and burnt in a pit of a hemispherical shape, about six feet in circumference and three feet deep At the bottom of this pit, one or more inverted *gharās* or earthen vessels having small holes pierced in their upper portion are buried The holes are kept closed at the commencement of the operations Into the pit is thrown a small quantity of the plants and burnt, fresh plants being gradually added to keep up a constant fire, and this is continued till the pit fills up During this process a liquid matter exudes from the plants As soon as this is observed the orifices in the *gharās* are opened and the liquid runs down into them below the fire After all the liquid has run down, the ashes are stirred up with a stick and covered over with earth The alkali found in the earthen vessels is *sājji* of the first quality, called *sājji lotā* because it is found in the *lotā* or pot The residuary mass in the pit is crude dirty potash

Sarjkalshāra or *sājji*, as used in medicine, occurs in porous granular masses of a greyish white colour, and with a strong alkaline taste of soda Chemically, it consists of carbonate of soda with certain impurities, such as organic matter, sulphate of soda,

1. पथ्यारोहितक क्त्वाथं यवचारकणायुतम् । प्रिवेत् प्रातर्धनतृक्ष्णीद्वयस्त्रीदरनिवृत्तये ।

शार्ङ्गधर ।

2. यवचारस्य चूर्णन्तु सद्योज्य सितया सह । भक्षयेन्नियत तस्य प्रशस्तेन्मूत्रनिग्रह ।

भावप्रकाश ।

potash etc The properties of *sarjā* are said to be like but somewhat inferior to those of *yavakāshāra* It is chiefly used in combination with other medicines of its class in the treatment of acidity, dyspepsia and enlargements of the abdominal viscera. Externally it is used as a caustic

Sājya, or barilla, should not be confounded with *sāyāmā* or fuller's earth The latter is earth impregnated with soda and not a barilla *Sāyāmā* occurs in great abundance on the surface of the soil in many parts of India, and is chiefly used in washing cloth The following is an example of a saline medicine containing *sarjā*

*Sarjākādyā churna*¹ Take of *sarjākāshāra* and *yavakāshāra*, rock, *sonchal*, *vit*, *sāmbar* and *karīkach* salts in equal parts, powder, soak in, lemon juice or the juice of pomegranate fruits and dry in the sun Dose about twenty grains This medicine is said to promote the appetite, to remove local swellings or tumours in the abdomen and to cure dyspepsia with severe pain after meals

A paste made of equal parts of *yavakāshāra* and *sarjākāshāra* with water is applied to abscesses, for the purpose of opening them

NITRATE OF POTASH

NITRE was unknown to the ancient Hindus There is no recognized name for it in Sanskrit. The *Bhāvaprakāsa* mentions *Suvarichā* as a variety of *sarjā* or barilla, and gives *soṛā* as its vernacular equivalent But *suvarichā*, according to standard lexicons, is a synonym of *sarjā* and not a separate article Some recent Sanskrit formulæ for the preparation of mineral acids containing nitre, mention this salt under the name of *Soṛāka* This word

1 सर्जिकाद्यचूर्णम् । सर्जिका च यवचार सिन्धुसौरक्षेत्रे विद्यते । सासुद्रिक रोमकश्च कोलमावाणि कारयेत् । एकोहत्याखिल चूर्णं भावयेन्मातुलुङ्गि । रसैर्वा दाडि-
सैर्वापि शीपयेद् तपेन वा । तच्चूर्णं नाशयेद्गुल्मं ग्रहणीमासजा रुजम् । अग्निञ्च कुरुते
दीप्तं रुचिञ्च कफनाशनम् ।

शाङ्गधर, ।

however is not met with in any Sanskrit dictionary and is evidently Sanskritized from the vernacular *sorá*, a term of foreign origin. The manufacture of nitre was therefore most probably introduced into India after the adoption of gunpowder as an implement of warfare. It is necessary to observe here that many writers have erroneously translated nitre into the Sanskrit term *yavalshára*. This last however is not a nitrate but an impure carbonate of potash obtained by reducing to ashes the spikes of the barley.

Chloride of ammonium is not mentioned by Susruta and the older writers. In recent Sanskrit works it is called *narasára*, a term apparently derived from the vernacular *nausadar* of Persian origin. Another salt mentioned in recent Sanskrit compilations is the impure sulphate of soda called *Khármnoon* in the vernacular. It is called *Kshárlavana* in Sanskrit, and is used in combination with other saline medicines.

ALKALINE ASHES

Sans. चार, Kshára

THE ashes of a number of plants containing more or less potash are employed both externally and internally. A list of these plants used in the preparation of caustic pastes, has been already given in the Introduction (see page 21). It remains now to notice the preparations of alkaline ashes for internal use. A solution of the ashes of these plants or of such of them as are available, is prepared by mixing them with six parts of water and straining the fluid through cloth for twenty-one times, that is, the strained fluid is poured over the ashes twenty-one times in succession, and made to percolate through them. Lastly the fluid is allowed to stand and the clear solution drained off. This alkaline solution is given in doses of one to three drachms in dyspepsia, ascites, enlargements of the abdominal viscera, calculous affections, etc. It is regarded as laxative, diuretic and antacid.

*Vásvánarakshára*¹ Take of the mixed ashes of *Euphorbia*

1. वैश्वानरचारः । क्षुब्धकषित्वकैरण्डवदण स पुनर्नवम् । तिलापामार्गकदली

nerifolia (*snuhi*), *Calotropis gigantea* (*arka*), *Plumbago Zeylanica* (*chitraka*), *Ricinus communis* (*eranda*), *Cratæva Roxburghii* (*varuna*), *Boenhaavia diffusa* (*punarnavá*), *Sesamum Indicum* (*tila*), *Achyranthes aspera* (*apámánga*), *Musa sapientum* (*kádali*), *Butea frondosa* (*palása*), and of the shells of tamarinds, two seers in all, boil in sixteen seers of water till reduced to one-fourth. Allow the solution to stand, and drain the clear liquid. To the clear solution add two seers of rock salt, boil again till the fluid is evaporated, dry and powder. To this powder add the following carminatives, namely, *ajowan*, cumin seeds, *kálágrá*, ginger, long pepper, black pepper and assafœtida, each four tolás, and mix. This combination is given in doses of one to two scruples, with cold water in dyspepsia, anasarca etc.

*Abhayá-lavana*¹ This is a preparation similar to *Varsvánalashára* above described. It is much used in enlarged spleen of long standing, and often with success. To prepare this two seers of mixed alkaline ashes are boiled in sixty-four seers of water till it is reduced to one-fourth. One seer of chebulic myrobalans, two seers of rock salt, and sixteen seers of cow's urine are then added, and the mixture boiled till it is reduced to a thick syrupy consistence. Lastly are added cumin seeds, ginger, black pepper, long pepper,

पलाश तिलिङ्गी तथा । गृहीत्वा ज्वालेदेतत् प्रस्य भस्माखिल यथा । जलादके विप-
क्तव्यं यावत् पादावशेषितम् । सुप्रसन्नं विनिश्चाय लवणं प्रस्ययुतम् । पक्वा निर्धूमकठिन
सूक्ष्मचूर्णीकृतं पुनः । यवान् जीरकयोषस्थूलजीरकहिङ्गुभिः । शीतोदकेन तच्चूर्णं
पिवेत् प्रातर्दिं मात्रया । तस्मिन् जीर्णोन्नमश्रीयाद् यूषैर्जाडलजै रसैः । ईषदक्षैः स
खण्डैः सुखोष्णैर्वह्निदीपनैः । एतेनाग्निर्विवर्द्धेत वलमारोग्यमेव च । तत्रानुपानं शस्त
हि तत्र वा गोजनेद्धितम् । मन्दान्यशीं विकारेषु वातश्चेष्टामयेषु च । सर्वाद्दशोद्य
रोगेषु शूलगुल्मीदरेषु च । अश्मर्या शर्करायाश्च विष्णून्वानिलरोगिषु ।

भावप्रकाश ।

¹ अमयालवणम् । पारिभट्टपलाशार्कस्तु ह्यपामार्गचिचकम् । कषाग्निमयवसुक
श्चट्टं वृहतीद्वयम् । पूतिकास्तीतकुटजकोपातक्य पुनर्नवा । समूलप्रव शाखाश्च चोदयित्वा
चट्टखले । तिलनालेन दीक्षाम्नि सुदग्धं भक्षणीतलम् । चारं प्रस्य गृहीत्वा च न्यसेत्
पात्रे नवे दृढे । जलक्षीणे विपक्तव्यं यावत् पादावशेषितम् । पूर्ववत् चारकवत्केन साधयेत्

assafoetida, *ajowan*, root of *Aplopaxis auriculata*, (*kushtha*), and *Curcuma Zedoaria* (*sati*), each four tolas, and the whole intimately mixed. This medicine is given in doses of half to one tola once daily in enlarged spleen, liver disease, ascites etc. If the bowels are not sufficiently moved it is given in larger doses.

DIAMOND.

Sans. हीरक, *Hiraka*

OF the precious stones enumerated in page 14, diamond, pearls and coral only are much used in medicine. The rest are rarely used or not used at all. Diamond is purified by being enclosed within a lemon and boiled in the juice of the leaves of *Agathagrandiflora* (*vala*). It is reduced to powder in the following manner. A piece of the root of a cotton plant is beaten to a paste with the juice of some betel leaves. Both these vegetables should not be less than three years old. The diamond is enclosed within this paste and roasted in a pit of fire. The process is repeated seven times, when the stone is easily reduced to a fine powder. Another process consists in roasting the diamond enclosed in a paste made of horn-shavings, for three times in succession. Diamond thus prepared is said to be a powerful alterative tonic that improves nutrition, increases the strength and firmness of the body and removes all sorts of diseases. Dose about one grain.

Diamond enters into the composition of several alterative and tonic medicines, such as the *Trailahya chintamani rasa*, *Ratnagiri-rasa*, *Sarvanga sundara rasa*, etc. These medicines are similar in

विचक्षण । पश्यमेकैश्च लवणं तदर्द्धाच्च हरीतकीम् । गोमूत्रसाढकं दत्त्वा चारवत् साधयेत्
शनैः । किञ्चिद्वारिणि सान्द्रं च सम्यक् सिद्धिं स्वतारिते । अजाजीवूपायं दिङ्मयमानी
पुष्करं शठी । एतैरङ्गैर्लैभागैश्चूर्णीकृत्य प्रदापयेत् । लवणञ्चाभयानाम् भक्षयेच्च यथावलम् ।
व्याधौ न वेद्यं मतिमाननुपानं यथावलम् । यक्षत्प्रीचीदरानाच्च गुणाशीलागिमान्द्रजित् ।
यावत् कोष्ठगता रोगान् निहन्तप्रायश्च शयः । प्रतितुन्यत्तिहृद्गीमर्कं राश्रिनाशनम् ॥

भैषज्यरत्नावली ।

composition They all contain diamond, pearls, gold, iron, talc, mercury, etc, in varying proportions and are used in similar cases

*Trailukya chintamani rasa*¹ is thus prepared Take of diamond, gold and pearls, each one part, iron, talc and *Rasa sindura* or red preparation of mercury, four parts each, rub together with the juice of *Aloe Indica* and make into two-grain pills This medicine is used as an alterative tonic with suitable adjuncts in various diseases

PEARLS AND CORAL

Sans सुक्ता Mukta, Pearls. प्रवाल Pravala, Coral

THESE gems have been used in medicine from a very ancient period and are mentioned by Susruta Pearls are purified by being boiled in the juice of the leaves of *Sesbania aculeata* (*gayanti*), or of the flowers of *Agave grandiflora* (*vaha*) Coral is purified by being boiled in a decoction of the three myrobalsans Both are prepared for medicinal use by being calcined in covered crucibles and then reduced to powder The properties of both these articles are said to be alike and they are generally used in combination They are said to be useful in urinary diseases, consumption etc, and to increase the strength, nutrition, and energy of weak persons The following are examples of prescriptions containing pearls and coral

*Pittántaka rasa*² Take of nutmegs, mace, *jatámánsi* root, root

1 त्रैलोक्यचिन्तामणिरसः । हीर सुवर्णं सुवृत्तचतार एषा सम तीक्ष्णरजश्चतूर्णम् समन्वताम् रससिन्दुरश्च निष्पद्यतीक्ष्णस्तथा श्लवारा । खल्वेद्रवेणैव कुमारिकाया गुह्याप्रमाणाय वटी प्रकाश्या । अदादिम योगश्चैरवार्थामय प्रणाशाय सुनिप्रणीतम् ।

रसेन्द्रसारस ग्रह ।

2 पित्तान्तक रसः । जातीकीषफल मासी कुष्ठ तालीशपत्रक । माचिकान्दत लोहश्च अथ दिव्य समांशक । सर्वतुल्य द्रव्यं तार मन्वक्निष्पद्य वारिणा । दिगुह्याभाषटीकार्या पित्तरीगविनाशिन्यौ । कौष्ठान्नितश्च यत्पित्तं शाखाभिन्नमपि वा । श्लवै

of *Aplotaxis auriculata* (*kushtha*), leaves of *Pinus Webbiana* (*tálisa patra*), aconite, iron pyrites, iron, talc and realgar, one part each, prepared pearls equal in quantity to all the above ingredients Beat them together into a paste with the aid of water and make into four-grain pills This medicine is said to be useful in diseases supposed to be caused by deranged bile, such as dyspepsia, jaundice, biliousness, vomiting of bile, etc

Vasanta Kusumákara rasa ¹ Take of prepared gold and camphor, each two parts, of prepared tin, lead and iron, three parts each, prepared talc, pearls and coral, four parts each Rub these ingredients together in a mortar and soak the powder seven times successively in each of the following fluids, namely, milk, sugar-cane juice, juice of *Adhatoda Vasica* (*vásaka*), decoction of lac and of *Pavonia odorata* (*bálá*), juice of the flowers and root-stock of the plantain tree, of the root-stock of *Nelumbum speciosum* (*padma*) and of the flowers of *Aganosma caryophyllata* (*málatrupusa*). Lastly soak in an infusion of musk prepared by macerating one part of musk in eight parts of warm water for twelve hours Divide this mass into four-grain pills They are given with sugar, honey and *ghee* in urinary diseases, impotence, gleet, diabetes, consumption and general debility This medicine is regarded as a valuable alterative tonic in chronic gonorrhœa and spermatorrhœa and is much prescribed in these complaints in combination with an extract called *Kusávalehá* (see Sugar cane)

वाक्पिप्पलु पाण्डुरोग हलीमकम् । दुर्नामधान्ति वात्तीश्च क्षिप्रमेव विनाशयेत् । रस-
पिप्पलुकीक्षीय काशीराजेन भाषित । तारशब्देनावशुद्धमौक्तिकं गृह्यते बुधैः ।

रसेन्द्रसारस ग्रन्थ ।

1 वसन्तकुसुमाकर । शृङ्गं द्वौ हाटकं चन्द्र तयो वद्वाहिकान्तकम् । चत्वारि-
शुद्धमन्त्रं प्रवाल मौक्तिकं तथा । भावना गव्यदुग्धेन भावनेचुरसेन च । वासा लाक्षा-
रसीदीच्यरन्ध्रकन्दप्रसूनकैः । शतपत्ररसेनैव मालत्या कुसुमीदकैः । पश्चान्नुद्गमदैर्भावं
सुगन्धिरससम्भवे । गुच्छाद्वयमिदं सेव्यं सितामध्वाज्यसयुतम् । मेहघ्नं कान्तिदञ्चैव कामद-
पुष्टिदं तथा । वल्लोपलितहञ्चैव स्मृतिभू श्विनाशनम् । तुष्टिदं वल्यमायुष्यं पुत्रप्रसवकार-
कम् । प्रमेहान् विशतिञ्चैव चक्षमेकादशं तथा । तथा सीमरुजं हन्यात् साध्यासाध्यमथापि
च । कुसुमाकरनामाय वसन्तपदपूर्वकः ।

भैषज्यारवावली ।

SILAJATU

Silājatu literally means stone and lac. The term is applied to certain bituminous substances said to exude from rocks during the hot weather. It is said to be produced in the Vindhya and other mountains where iron abounds. It is a dark sticky unctuous substance resembling bdellium in appearance. It has a bitter taste and a strong smell resembling stale cow's urine. Over platinum foil it burns with a little inflammable smoke and leaves a large quantity of ashes consisting chiefly of lime, magnesia, silica, and iron in a mixed state of proto and peroxide*.

Silājatu is prepared for medicinal use by being washed with cold water and then rubbed into an emulsion with its bulk of hot water or milk in an iron pot. This emulsion is exposed to the sun, when a black cream-like substance collects on its surface, and this is removed. The process is continued as long as any cream rises. If the mixture becomes too thick, hot water is added from time to time as required, but too much water should not be added at once, for then the cream will not rise to the surface. The *silājatu* thus collected is dried in the sun and preserved for use. The dregs at the bottom are thrown away. The extract of *silājatu* thus obtained is purified by being soaked in a decoction of the following plants, namely, *Shorea robusta*, (*sāla*), *Buchanania latifolia* (*pālā*), *Terminalia tomentosa* (*asana*) and *Acacia catechu* (*khadrā*). *Silājatu* is regarded as a powerful alterative tonic and is considered specially useful in urinary diseases, diabetes, gravel, anæmia, consumption, cough, and skin diseases. The extract of *silājatu* is given in doses of six to twelve grains. In strangury or painful micturition it is given with honey or with the decoction of *Tribulus terrestris* (*gokshurā*)¹. In urinary complaints it is given in combination with preparations of lead or tin. As an alterative tonic, it is used in combination with iron, as in the following called *Yogarāja*.

* The *silajit* or alum earth of Nepal is a different article from the *silajatu* of the Sanskrit Materia Medica. The former is an article of Yunāni not Hindu Medicine.

*Yogarāja*¹ Take of *śilājatu*, prepared iron, non pyrites and silver, each five parts, of the three myrobalans, ginger, black pepper and long pepper, plumbago root and *bāberung* seeds, each one part, sugar eight parts Powder, mix and make into a confection with honey Dose about half a tola This medicine is considered a valuable alterative tonic, and is used in anæmia, jaundice, consumption, chronic fever, skin diseases, urinary diseases, piles, etc

RED OCHRE.

Sans गैरिक *Gauika Vern. Gerumdti*

Two sorts of *gauikā* or ochre are mentioned by Sanskrit writers, namely, red and yellow The red variety, called also *Raktapāśhāna* is used in medicine It is a silicate of alumina coloured with oxide of iron. It is purified by being soaked in milk seven times, and is described as sweetish, astringent, cooling, and useful in ulcers, burns, boils etc It is rarely used internally except as an ingredient of some of the complex prescriptions containing a large number of mineral drugs, such as the preparation called *Jvarakungara pāindraśa*, which contains nearly all the mineral substances

Besides *gauika* several other varieties of earth are described and occasionally used in medicine A sweet scented earth brought from Suat and called *Saurāstra mrutikā* is regarded as astringent and useful in hemorrhages. It enters into the composition of several medicines for relieving bleeding from internal organs

1 योगराज । त्रिफलायान्नयोभागास्तयस्त्रिकटुकस्य च । भागश्चिद्रकमूलस्य विड-
डाना तथैव च । पञ्चाशजतुनी भागास्तथारूप्यमलस्य च । माचिकस्य विषडस्य लौहस्य
रजसस्तथा । अष्टौ भागा सितायाश्च तत्सर्वं शृङ्गचूर्णितम् । माचिकेणशुत स्थाप्य-
सायसे भाजने शुभे । उडुम्बरसमा मावा तत खादेत् यथाग्निना । दिने दिने प्रयोगेन
जीर्णे भोज्यं यथेष्टितम् । बर्जयित्वा कुलत्यांश्च काकमापी कपोतकान् । योगराज इति
ख्याते योगोऽयममृतोपमः । रसायनमिदं श्रेष्ठ सर्वरोगहरं परम् । पाण्डुरोगं विष
कास यक्षाण विषसज्वरम् । कुष्ठान्यजरक मेह श्वासं हिक्कामरीचकम् । विशेषादन्त-
पक्षार कामला गुदजानि च ।

SANSKRIT MATERIA MEDICA.

PART II

VEGETABLE MATERIA MEDICA

NAT ORDER RANUNCULACEÆ.

ACONITUM FEROX

Sans विष, *Prisha* वतसनाम, *Vatsanābha*

Vern Mithābīsh, *Srīngībīsh*, *Dagrā*

THE poisonous root called *bīsh* or *srīngībīsh* is derived chiefly from *Aconitum ferox* and *Aconitum Napellus*, which are indigenous to the temperate and sub-alpine Himalaya. Other equally poisonous species of aconite are met with in these regions, and their roots collected for use. In the Introduction (page 7) it has been stated that of the nine virulent poisons mentioned by Sanskrit writers, the majority probably consist of species of aconite. The characters of these poisons are described in the Bhabapiakasa, as follows

Vatsanābha This root resembles in appearance the navel of children, hence it is called *Vatsanābha*. Its leaves are like those of *Viter Negundo*. It is said that no plant can grow near it.

Hārīdā This root resembles turmeric in appearance, hence it is so called.

Saktu This poisonous tuber, when broken, is found to contain a white starch-like substance.

Pradīpana This variety is said to be red and shining in appearance, and to cause a severe burning sensation when taken internally.

Saurāśtrīka is the variety of poisonous root produced in the country called *Śūrat*.

Singr is a variety of aconite which if tied to the horn of a cow, is said to tinge her milk red

Kālakuta This poison is said to be the gum of a plant resembling the *Ficus religiosa* in appearance It is a native of Malwa and the Concan

Halāhala The bunches of fruits of this plant resemble those of grapes Its leaves are like those of the palm tree It is found in the Himalaya, in the sea coast to the south, the Concan and in the mountain called Kishkindhya to the north of Mysore

Brahmaputra This poison is of a tawny colour and causes purging It grows on the Malayāchala, that is, the Western Ghats on the Malabar Coast

From the above description it would seem that of these nine poisons, the first six are probably species of aconite Of these the variety called *Vatsanābha* has been used in medicine from a very remote period

Aconite is purified by being cut in small slices and steeped in cow's urine for three days, before being used It is regarded as heating and stimulant, and useful in diseases supposed to be caused by deranged phlegm and air It is used in a great variety of affections, but is specially recommended in fever, cephalalgia, affections of the throat, dyspepsia and rheumatism In recent or acute fevers the following is a favourite medicine

Mṛtyunjaya rasa ¹ Take of purified aconite, sulphur, black pepper, long pepper and borax, each one part, cinnabar two parts, powder and beat them into a mass with water and make into two-grain pills These pills are given with suitable adjuncts in fever supposed to be caused by deranged air, as also in those caused by the derangement of all the humours, that is, in ordinary remittent fever and in that of typhoid type A composition very similar to the above is recommended by Sarangadhara under the name

1 मृत्युञ्जयरस । विषस्यैक तथा भाग सरिच पिप्पलीकणा । गन्धक तथा भाग द्विभाग चिद्गुल भवेत् । जलेन वटिका कार्या गुञ्जामात्रा प्रमाणतः । मधुना लेहनं कार्यं सर्वज्वरनिवर्त्तये ।

of *A'nanda bhavava rasa* If there is much constipation along with the fever, croton seeds are added to the above ingredients, as in the preparation called *Jvana murāra rasa* ¹

In fever complicated with cerebral symptoms aconite is used in combination with mercury and *datura*, as in the following called *Punchavalktra rasa* ² Take of purified mercury, sulphur, aconite, black pepper and borax, rub them together with the juice of *datura* leaves for twelve hours, and make into four-grain pills. Along with these pills a decoction of the root of *Calotropis gigantea* (*arila*) with the addition of long pepper, black pepper and ginger is recommended to be taken

In chronic fever with strong shivering fits, copious perspiration, or much heat of body, aconite is used in combination with salts and aromatics, as in the following called *Saubhāgya vatikā* ³ Take of aconite, borax, cumin seeds, the five salts, *viz* rock, sea, *sonchal vit* and *sambar* salts, the three myrobalans, ginger, long pepper and black pepper, prepared talc, mercury and sulphur, in equal parts. First rub the mercury and sulphur together, then mix them with the other ingredients, soak the mixture seven times successively in the juice of the following leaves, namely, of *Vitex*

1 ज्वरसुरारि । हिङ्गुलज्ज विष व्योष टङ्गण नागराभया । जयपालसमायुक्त
सद्योज्वरनिवारणम् । सर्वचूर्णसम जयपालचूर्णं सर्वं पिष्ट्वा कलायप्रमाणा वटिका कार्या
आर्द्रकस्त्रसेन पिवेत् ॥

भैषज्यरत्नावली ।

2 पञ्चवक्त्रस । शुद्धसूतस्त्रिपं गन्धं सरिषं टङ्गणज्ज । मर्दयेद्भूतजैर्द्रावैर्दिन-
मेकञ्चशीपयेत् । पञ्चवक्त्रसीनामहिगुञ्ज सन्निपातहा । अर्कमूलकपायन्तु सद्रूपणमनुपाययेत्

शार्ङ्गधर ।

3 सौभाग्यवटिका । सौभाग्यामृत जीर पञ्चलवण व्योषा भयाचामला । निखन्दा
भक्त शुद्धगन्धकरसानिकोक्तान् भावयेत् । निर्गुण्डौघग मङ्गराजक वृषापामार्गपदीक्षसत ।
प्रत्येकस्त्रसेन सिद्धवटिका हन्तिमिदीषोदाम् । तेषा शीतमनीव दाहमखिल खेदद्रवा
र्द्राक्षितम् । निद्रा घोरतरा समस्तकरणव्यामोहमूढ मनः । शूल श्वासदलासकाससहित
मूर्कारुचिदङ्ग्वरम् । तेषा वै परिहृत्य जीवितमसौ गृह्णाति नृत्योमुखात् ।

भैषज्यरत्नावली ।

Negundo (*nirgundi*) *Nyctanthes Arbor-tristis* (*sepháluká*), *Eclipta prostrata* (*kesaríja*), *Adhatoda Vasica* (*vásaka*) and *Achyranthes aspera* (*apámángu*), and make into four-grain pills

Aconite is much used in dyspepsia with loss of appetite, in a variety of combinations. The following called *Rámarána rasa*¹ is an illustration. Take of mercury, aconite, cloves, and sulphur, each one part, black pepper, two parts, nutmeg, half a part, rub them together with tamarind juice and make into two-grain pills. These pills are given with the addition of powdered black pepper. Another preparation called *Hutásanra rasa* is similar in composition to the above, and is recommended by several writers.

In diseases supposed to be caused by deranged phlegm, such as catarrh, sore throat, cough, asthma, discharges from the ears and nose etc, aconite is used in combination with other heating medicines. The following called *Kapla Ketu rasa*² is a well known medicine for these diseases. Take of aconite, borax, long pepper, and conch-shell lime, equal parts, powder, mix and soak the mixture three times successively in fresh ginger juice. Dose, two grains, to be given with ginger juice. A preparation similar to the above and called *Bharrava rasa*, is used in hoarseness and loss of voice.

In cephalalgia and hemicrania it is recommended to be given in the following form. Take of aconite one part, liquorice root and the pulse of *Phaseolus Roxburghii* (*másha*), each two parts, powder and make into one-grain pills.

In boils and other skin diseases aconite is used in the form of liniment and ointment. The following is an illustration.

1 रामबाणरस । पारदामृत लवङ्गगन्धक भाग्युग्म सरिचेन मिश्रितम् । तत्र जातिफलसर्द्धभागिक तिलिङ्गीफलरसेनसहितम् । वस्त्रिमान्द्रादशवक्रनाशनो रामबाण इतिविश्रुतोरसः ।

रसेन्द्रचिन्तामनी ।

2 कफकेतुरस । टङ्गण मागधीशङ्ख वत्सनाभ समसम् । आर्द्रकस्यरसेनापि भावयेद्विषवयम् । गुञ्जासाव प्रदातव्य आर्द्रकस्यरसेन वै । पीनमश्यास कासश्च गलरोगं गलशूलम् । कर्णरोग नेत्ररोग दन्तरोगश्चक्ष्माणम् । एतान् रोगान्निवृत्ताय कफकेतु-रसीतम् ।

रसेन्द्रसारस ग्रन्थः ।

*Visha tarla*¹ Take of sesamum oil four seers, aconite root eight tolas, seeds of *Pongamia glabra* (*karanja*), turmeric, wood of *Berberis Asiatica* (*dāruharidīā*), root of *Calotropis gigantea* (*arka*), of *Nerium odoratum* (*karavīra*), flowers of *Tabernaemontana coronaria* (*tagara*), *Acorus calamus* (*vacha*), *Aplotaxis auriculata* (*kushtha*), *Vallaris dichotoma* (*āsphotā*), red sandal wood, flowers of *Aganosma caryophyllata* (*mālatī*), bark of *Alstonia Scholaris*, (*saptaparna*), maddei and leaves of *Vitea Negundo* (*nirgundi*), each four tolās, cow's urine sixteen seers The solid ingredients should be beaten into a paste with water, and then boiled with the oil and cow's urine till the watery portion is evaporated This oil is said to be useful in boils, prurigo, psoriasis, leucoderma and other skin diseases

—S.M.S. MEDICAL COLL
ACONITUM HETEROPHYLLUM
TAT

Sans अतैच, *A'tarcha*, अतिविष, *A'tivisha* Vern *A'tis*

THE tuberous roots of this plant are considered tonic, astringent and stomachic, and are used in fever, diarrhoea, irritability of stomach and cough *Atis* is also regarded as an antidote to poisons

In fever with diarrhoea the following compound decoction² is much used in practice Take of *atis*, ginger, *kurchi* bark tubers of *Cyperus rotundus* (*mustaka*), and root of *Tinospora cordifolia* (*gulancha*), equal parts, in all two tolās, water thirty-two tolās Boil till the water is reduced to one-fourth or eight tolās This

1 विषतेलम् । नक्तमाल हरिद्रेवे अर्कस्तगरमेवच । करवीर वचाकुष्ठमास्कीतारक्तचन्दनम् ॥ मालतीसप्तपर्णश्च मल्लिहासिन्धुवारिका । एषामर्द्धपलान् भागान् विषस्यापिपलन्त्या । चतुर्गुणे गवां मूत्रेतेलप्रस्थ विपाचयेत् । श्विदाविस्कोट किटिम कौटिलूता विचर्चिका । कण्डकच्छु विकाराश्च ये व्रणाविषदुषिता । विषतेलमिदं नाम्ना सर्व्वव्रणविशोधनम् ।

चक्रदत्त ।

2 नागर कूटजीमुस्तममृतातिविपाचया । एभि हत पिबेत्काश ज्वरातीसारनाशनम् ।

शार्ङ्गवर ।

quantity is given in two or three divided doses during the course of the day Chakradatta recommends the following called *Hive-radī*¹ in similar cases Take of *ātis*, dried *bela*, root of *Pavonia odorata* (*bālá*) and *Cyperus rotundus* (*mustaka*), ginger and coriander, equal parts, in all two tols and prepare a decoction in the usual way.

In the fever, diarrhœa, cough, and irritability of stomach of infants *ātis* is used alone or in the following combination Take of *ātis*, tubers of *Cyperus rotundus* (*mustaka*) and the horny excrescence of *Rhus succedanea* (*karlatasi ingi*), equal parts, powder and mix This compound powder is given in suitable doses with the addition of honey Sometimes long pepper is added to the above ingredients, when the powder is called *Bāla-chāturbhadraka*,² from its being composed of four ingredients.

NIGELLA SATIVA

Sans कृष्णजीरक, *Krishnajiaka* *Vern* *Kalájurá*, *Beng* *Mugicla*, *Hind*.

THE seeds of *Nigella sativa* are regarded as aromatic, carminative, stomachic and digestive, and are used in indigestion, loss of appetite, fever, diarrhœa, puerperal diseases etc They are also said to increase the secretion of milk, and are therefore given to recently delivered females in combination with a few other medicines *Nigella* seeds are scattered between layers of woolen clothes, shawls etc, to preserve them from insects This use of the seeds appears to be common all over India

In intermittent fever *nigella* seeds slightly roasted are recommended to be given in two diachm doses with the addition of an equal quantity of treacle³

1 श्वीवेरादि । श्वीवेरातिविषासुक्त विल्लधान्यकनागरे । पिवेन्पिच्छाविषमघ्नं
शूलदोषामपाचनम् । सरक्त हन्तातीसार सज्वर वायविज्वरम् ।

चक्रदत्त ।

2 बालचातुर्भद्रिका । घनकृष्णारुणाशृङ्गीचूर्णं चौद्रेण सयुतम् । शिशोर्ज्वराति-
सारघ्नं कासश्वासवकीहरम् ।

चक्रदत्त ।

3 कालाजाजी तु सगुडा विषमज्वर नाशिनी ।

भाक्प्रकाश ।

In loss of appetite and distaste for food a confection made of *Nigella* seeds, cumin seeds, black pepper, raisins, tamarind pulp, pomegranate juice and *sonchal* salt, with treacle and honey is said to be very useful ¹

Chakiadatta recommends the administration of *nigella* seeds with the addition of long pepper, *sonchal* salt and wine in the after pains of puerperal women ² In puerperal diseases, such as fever, loss of appetite and disordered secretions, after delivery, the following called *Pancha grāka pāka* ³ is used Take of *nigella* seeds, cumin seeds, aniseeds, *ajowan*, seeds of *Carum sativum* (*ajamodā*), *Anethum Sowa* (*sulpha*) and *Trigonella Fœnum græcum* (*metha*), coriander, ginger, long pepper, long pepper root, plumbago root, *habushā* (an aromatic substance) dried pulp of the fruit *Zizyphus Jujuba* (*vadari phala*), root of *Aplotaxis auriculata* (*kushtha*) and *lamala* powder each one tolā, treacle one hundred tolas, milk one seer, clarified butter four tolās Boil them together and prepare a confection Dose about a drachm every morning

NAT ORDER MENISPERMACEÆ

STEPHANIA HERNANDIFOLIA

Syn Cissampelos herandra Rox.

Sans अम्बछा, *Ambashthā* पाठा, *Pāthā*. *Vern* A'kanādi, *Nemuka*

IN the Pharmacopœia of India it is stated that the *Cissampelos hermandifolia*, Wall, is identical with *Pareira Brava*, and is

1 कारव्यजाजीमरिच द्राक्षावचास्तदाडिमम् । सौवर्चल गुड चौद्र सर्वारोचक-
नाशनम् । चक्रदत्त ।

2 उपकुञ्जिका पिप्पलीच मदिरा लाभत पिवेत् । सौवचलेन सयुक्ता योनिशूल-
निवारणीम् । चक्रदत्त ।

3 पञ्चजीरक पाक । जीरक स्थूलजीरक शतपुष्पादय तथा । यवान्नी चाजमोदा
च धान्यक मेथिकापि च । शुष्की क्षणिकाणामूल चित्रक हवपापि च । बदरीफल चूर्णच
कुष्ठ कम्प्लक तथा । एतानि पलमावाणि गुड पलशत मतम् । चीरप्रस्यद्वय दद्यात्सपि च
कुडव तथा । पञ्चजीरकपाकोऽय प्रमूताना प्रशस्तये । युज्यते सूतिकारोगे योनिरोगे ज्वरे-
चये । काशे श्वासे पाण्डुरोगे कार्शे वाताग्नेषु च । भावप्रकाश ।

common throughout India Other authorities say, that the true *Paiera Brava* is derived from *Chondodendron tomentosum* The plant used by Kavirajas in Bengal under the name of *páthá* is identical with that figured by Roxburgh as *Cissampelos lucandra* The root of this plant is regarded as light, bitter, astringent and useful in fever, diarrhoea, urinary diseases, dyspepsia etc

In fever with diarrhoea, the following compound decoction¹ is recommended by Chakradatta Take of *páthá* root, *indrayava* seeds, chiretta, tubers of *Cyperus rotundus* (*mustaka*), *Hedyotis biflora* (*parpatí*), *guluncha*, and ginger, equal parts, in all two tolás, water thirty-two tolás, and boil till reduced to one-fourth In diarrhoea caused by indigestion and attended with pain and slimy or bilious stools, the following decoction is used Take of *páthá* root, *indrayava* seeds, chebulic myrobalan and ginger, each half a tolá, water thirty-two tolás Boil down to one-fourth

In internal or deep seated inflammation, Chakradatta recommends the root of this plant to be taken with honey and water in which rice has been macerated²

In urine depositing salts or a white flocculent substance, a decoction of *páthá* and aloes wood is used³

In painful micturition the following decoction⁴ is considered useful Take of *páthá* root, *Hedysarum lagopodioides* (*prishnupari*),

1 पाठेन्द्रयवभूनिम्ब मुस्तपर्पटकान्द्रता । जयन्ताममतीसार सज्वर समहीपधा ।
चक्रदत्त ।

2 श्मभयतिपाठामूल चोन्द्रयुत तण्डुलाम्भसापीतम् । अन्तर्भूत विद्रधिमुद्धतमाश्वेवम
नुजस्य । अपक्वेर्तु तद्विष्ट तु वृणवत् क्रिया ।

चक्रदत्त ।

3 पारिजातजयानिम्बवज्जिगायत्रिणा पृथक् । पाठाया सागुरो पीताड्यस्य शार-
दस्य च । जले क्षुमद्यसिकताशनेर्लवणपिष्टकान् । सान्द्रमेहान् क्रमात् घ्नन्ति अष्टौ
क्वाथा समाचिका ।

चक्रदत्त ।

4 वृक्षतीक्ष्णवनीपाठायष्टीमधुकलिङ्गका । पाचनीयोष्ठहत्वादि क्षुब्धोपवयापह ।

चक्रदत्त ।

root of *Solanum Indicum* (*vrkati*), liquorice root and *indragava* seeds, equal parts, in all two tolás Boil down to one-fourth.

TINOSPORA CORDIFOLIA

Sans गुडूची, *Guduchi* अमृता, *Amritā*.

Vern. *Gulantha*, *Beng* *Gurach*, *Hind*

THE stem, leaves, roots and watery extract of this plant are all used in Hindu Medicine. The entire plant is regarded as a valuable alterative and tonic. It is used in general debility, fever, jaundice, skin diseases, rheumatism, urinary diseases, irritability of stomach, etc

The fresh juice of the plant is taken with milk as a general tonic. In fevers it is used in a great variety of forms. Thus a cold infusion of *gulantha* is given with honey in bilious fever. A decoction¹ of *gulantha* or its fresh juice is given with the addition of long pepper and honey in chronic fever with cough. A compound decoction is thus prepared. Take of *gulantha*, *Hedyotis biflora* (*pariparta*), *Cyperus rotundus* (*mustaka*), chiretta and ginger, each one drachm, water, half a seer. Boil down to one-fourth. It is said to be useful in fevers caused by deranged air and bile. Practically it is found very useful in chronic fevers, which have resisted other antiperiodics, and which are apt to recur after apparent recovery. In chronic fever with loss of appetite, the following confection is recommended by many writers.

*Dhātumodaka*² Take of chebulic and emblic myrobalans, ginger and long pepper, one part each, watery extract of *gulantha*, four parts, water sixteen parts. Boil till reduced to one-fourth and prepare a confection with eight parts of sugar. When of proper

1. पिप्पलीमधुमिश्र गुडूची खरस पिबेत् । वीर्यं ज्वर कफ श्लेह कासारोचक-
नाशनम् । गुडूची पपैठ सुख किरानं विश्वमेपजम् । वात पित्तज्वरे देय पञ्चभद्रमिद-
शम् ।

भावप्रकाश ।

2. धात्रीमोदक । धात्री पथ्या कणौ शङ्खी तुल्याच्च चूर्णयेद् दृढम् । चतुःसमा-

consistence divide the mass into boluses of about a drachm each. One of these is taken every morning, in chronic fever with enlarged spleen, cough, loss of appetite, etc

Gulancha enters into the composition of a large number of prescriptions for chronic skin diseases. The juice of the plant or its decoction is given alone, or with the addition of *guggulu* or *bdellium*¹. Numerous compound decoctions with the addition of various other drugs such as *nim*, turmeric, catechu, etc. are used in these diseases, as well as in gout and rheumatism². Several oils, for external application are prepared with *gulancha* and are much used in skin diseases, rheumatic affections and nervous complaints.

*Guduchyādr tarla*³. Take of fresh *gulancha*, eight seers, water, sixty-four seers, boil till reduced to one-fourth and strain. To the strained decoction, add prepared seasamum oil, four seers and *gulancha* beaten to a paste with water, one seer, boil together till the water is evaporated. This oil is a favourite application in eruptive skin diseases from impure blood. The *Prīhat guduchyādr tarla* is prepared by the addition of a number of other medicines in the form of paste, to the decoction of *gulancha* and the oil. Another compound oil called *Vāta guduchyādr tarla* is thus prepared. Take of *gulancha*, twelve seers and a half, water sixty-four seers. Boil till reduced to one fourth. Take of the fresh juice of *Adhatoda Vasica* (*vāsaka*), and of *datura* leaves, each four seers, prepared mustard oil, four seers, aromatics in the form of paste one seer. Boil together the decoction of *gulancha* with the vegetable juices, oil and paste, in the usual

मृताक्षेया शर्कराच पल तथा । मधुना मोदकं कुर्यात् जीर्णज्वरहर पर । मन्दाग्निदीपनं चैव सद्योदाह विनाशनम् । क्षीहज्वरे तथाकासे आसे च रक्तपित्तके । दापयेत् मोदकं वैद्य धात्रीनामभिद मद्भत् ।

सारकौमुदी ।

1 वत्साद्वल्गुद्वय काथ पीतो गुग्गुलुसंयुत ।

2 गुडुच्या खरस कल्क चूर्णं वा काथमेव वा । प्रभूत कालभासेव्यं सुषुतेषातशो-
खितम् । चक्रदत्तः ।

3. गुडु चीकाथकल्काभ्या तैलं वा वातरक्तनुत् ।

चक्रदत्तः ।

mannar This oil is recommended by Charaka in eruptive skin diseases with troublesome itching, as also in diseases of nervous origin.

NAT ORDER BERBERIDEÆ BERBERIS ASIATICA AND OTHER SPECIES

Sans दाबहरिद्रा, *Dáruharidrā* दार्बी, *Dáru*

Vern *Dáruhaldr* *Hind*

THE wood, root-bark and extract of Indian Barberry have been used in Hindu Medicine from a very remote period Its properties are said to be analogous to those of turmeric The extract, called *Rasánjana** in Sanskrit and *rasot* in the vernacular, is directed to be prepared by boiling together equal parts of a decoction of Indian barberry and milk, till reduced to the consistence of an extract.† The extract thus prepared, is said to be particularly useful in affections of the eyes Indian barberry and its extract *rasot* are regarded as alterative and deobstruent, and are used in skin diseases, menorrhagia, diarrhoea, jaundice and above all, in affections of the eyes

Rasánjanādrī churna,¹ or compound powder of *rasot* Take of *rasot*, *átis*, the bark and seeds of *Holarhena antidysenterica*, flowers of *Woodfordia floribunda* (*dhátuki*) and ginger, in equal parts Powder and mix Dose, about a drachm, with rice water

* Galena or the sulphide of lead ore is sometimes called *rasanyana* in Sanskrit and some physicians in Bengal use the lead ore or *rasanyana*, whenever this term occurs in a prescription In the Upper Provinces however, *rasanyana* is invariably translated *rasot* in the vernacular This, no doubt, is the correct practice The mistake on the part of the Bengali physicians, probably occurred from their not being acquainted with *rasot*, which is the produce of plants indigenous to the Himalayan range

† दार्बीकाय समचीर पादम्यक्ता यथावनम् । तदारसाञ्जनाख्यन्तत्नेतयो परम हितम् ।

1 रसाञ्जनादि पूर्णम् । रसाञ्जन सातिविष कुटजस्य फल त्वचम् । धातकी शृङ्गवेरश्च प्रपिबेत्तुलाम्बुना ॥ 'चौद्रे नयुक्त नुदतिरक्तातिसारसुखनम् । मन्द दीपयतेषाम्नि शूलश्चापिनिवर्त्तयेत् । चक्रदत्त ।

(*tandulámbu*) and honey. This powder is said to be useful in bilious diarrhoea

Dáivýádi kválha,¹ or compound decoction of Indian barberry. Take of the root bark of Indian barberry, *rasot*, chiretta, *Adhatoda Vasica* (*Vásaka*), *Cyperus rotundus* (*mustaka*), bela fruit and marking nuts, equal parts, and prepare a decoction in the usual way. This is administered with honey in menorrhagia and copious discharges from the womb. Another combination said to be very useful in menorrhagia is as follows. Take of *rasot* and the root of *Amaranthus spinosus* (*tandulíya*) equal parts beat into a paste with water, and administer with honey and water in which rice has been steeped.

Sáringadhara recommends a simple decoction of Indian barberry to be given with the addition of honey in jaundice. In painful micturition from bilious or acrid urine, a decoction of Indian barberry² and emblic myrobalan is given with honey. A decoction³ of the root bark is used as a wash for unhealthy ulcers, and is said to improve their appearance and promote cicatrization. In the intertrigo of infants, *rasot* is recommended to be applied externally and administered internally.⁴ *Rasot* mixed with honey, is said to be an useful application to aphthous sores.

The principal use of *rasot* however is in eye-diseases, in which it is employed in a great variety of forms. The following are a few illustrations. Take of *rasot*, chebulic myrobalan rock salt and red ochre, equal parts, rub them together into paste with water,

1 दार्व्यादिकाय । दार्वी रसाञ्जन वसाब्द किरात विल भक्षान्तकै रविकृतीमधुना-
कशाय । पीतो जयत्यतिविल प्रदर मशूल पीतासितारुण विलोहित नील शुक्लम् ॥

चक्रदत्त ।

2 दार्वीं तथै वामलकीरसेन समाचिका पेटिक सूत्रछच्चे । चक्रदत्त ।

3 त्रिफला खदिरौ दार्वीं न्यग्रोधोदिवलाकुशा । निम्ब कीलकपत्राणि कषाय
शोधने हितः ।

चक्रदत्त ।

4 रसाञ्जन विशेषेण पानाक्षेपनयोर्हितम् ॥ गुदभ भेगुद स्त्रीहैरभय्याश्र प्रवेशयेत्

चक्रदत्त ।

and apply round the orbit in inflammatory affections of the eyes¹ *Rasot* mixed with honey may also be used in the same way An emulsion of *rasot* made with milk is recommended to be poured into the eyes, or used as a collyrium for relieving pain, burning and lachrymation²

NAT ORDER NYMPHÆACEÆ

NELUMBIUM SPECIOSUM

NYMPHÆA LOTUS ETC

THESE beautiful aquatic plants had attracted the attention of the ancient Hindus from a very remote period, and obtained a place in their religious ceremonies and mythological fables, hence they are described in great detail by Sanskrit writers The flowers of *Nelumbium speciosum*, called *Padma* or *Kamala*, are sacred to Lakshmi, the goddess of wealth and prosperity The white variety of this plant is called *Pundarika* the red, *Kokanada* and the blue, *Indivara* The entire plant including root, stem and flower is called *Padmina* The torus or receptacle for the seed is, called *Kamukāsa*, and the honey formed in the flowers, *Mahanada* The filaments round the base of the receptacle, pass by the name of *Kingulka* and the leaf stalk by that of *Mrunāla* The species of *Nymphæa* described, are as follows —

Nymphæa Lotus *Kumuda*, Sans *Sāluka* Beng *Kor Hind*

Nymphæa stellata *Nilotpala*, Sans *Nilsaphalā*, Beng

Nymphæa rubra *Raktotpala*, Sans *Raktakambal*, Beng

The root-stocks of these water plants contain a sort of starch, and are eaten by the poorer classes During the famine of 1866 in Orissa, they were much sought after by the starving people

1 हरीतकीसैन्धवश्च गैरिकश्च रसाञ्जनम् । विडालकोजबेपिष्ट सर्वनेत्रामयापह ॥
शार्ङ्गधर

2 दाक्षीरसाञ्जनं वापि स्तन्ययुक्तं प्रपूरणम् ॥ निहन्तिशीघ्रं दाहान्त्रुवेदना स्रन्द-

The seeds of *Nelumbium speciosum* are eaten raw. The small seeds of *Nymphaea Lotus*, called *bheta*, are fried in heated sand and used as a light easily digestible food. The seeds of *Euryale ferox* called *makhāna* in Sanskrit, are also used in the same manner, and are regarded as light, invigorating food suited for sick people.

The filaments of these plants are used medicinally. They are considered astringent and cooling, and useful in burning of the body, bleeding piles and menorrhagia. In bleeding piles the filaments of the lotus are given with honey and fresh butter or with sugar¹. In menorrhagia the filaments of *Nymphaea stellata* are given with the addition of *sonchal* salt, nigella seeds, liquorice powder, curdled milk and honey². A compound decoction is thus prepared.

*Utpalādi sritam*³. Take of the filaments of *Nymphaea Lotus*, *N. stellata* and *N. rubra*, of the white variety of *Nelumbium speciosum* and liquorice root, equal parts, in all, two tolas, and prepare a decoction in the usual way. This decoction is said to be useful in thirst, burning of the body, fainting, vomiting, hemorrhage from the internal organs, and bleeding from the womb during gestation.

A cooling application⁴ for external use is prepared as follows. Take of the filaments and leaf-stalks of *Nelumbium speciosum*, *Nymphaea stellata*, and *Nymphaea Lotus* and of red sandal wood, equal parts, and rub them together into a thin paste with cold water. This is applied to the forehead in cephalalgia. A paste made of emblic

1 सपन्नकेशर चौद्र नवनीत नव खिहन् । सिताकेशर सयुक्त रक्तार्थसिसुखी-
भवेत् ।

भावप्रकाशः ।

2 दद्यात्सौवर्षलाजाजीमधुक नीलमुत्पलम् । पिबेत् चौद्रयुत नारीवातसृग्दर-
पीडिता ।

चक्रादत्त ।

3 गुर्विष्णागर्भतीरक्त सवेद्यदि सुहूर्मुहू । तन्निरीधाय सा दुग्धमुत्पलादि स्त
पिबेत् ।

भावप्रकाशः ।

4 मृण्मलविषशालूतचन्दनी पतकेशरे । सिग्धपित्ते शिरीदिह्यात्तद्वदामलकोत्पले ।

चक्रादत्तः ।

myrobals and the filaments of the lotus is also used for the same purpose. Similar compositions are recommended for external inflammations, erysipelas etc.

The large leaves of *Nelumbium speciosum* are used as cool bed-sheets, in high fever with much heat and burning of the skin¹

NAT ORDER PAPAVERACEÆ.

PAPAVR SOMNIFERUM

Sans अदिफेन, *Ahrphena* *Vern* *A'phum*

OPIUM appears to have been brought into India by the Mussulmans, as its Sanskrit name is evidently derived from the Arabic *Afyun*, and as it is not mentioned by the older Sanskrit writers.

The capsules of the poppy are called *Khálhas* and the seeds, *Khasatila*, in Sanskrit. The seeds yield a bland oil, which is used for culinary purposes and in lamps. The seeds themselves are innocuous and used as food. They are boiled, mixed with a little oil and salt, and taken as curry with rice, or they are made into balls and formed with tamarind, into an acid curry. Poppy seeds are sprinkled over some sorts of native sweetmeats.

Sanskrit writers describe poppy seeds as demulcent and nutritive, and useful in cough and asthma. The capsules of the poppy are regarded as light, astringent, and narcotic. They promote talkativeness and destroy or diminish the sexual power. The properties of opium are said to be analogous to those of the capsules. Opium is used as an astringent and narcotic in bowel complaints, cough, external inflammations, urinary diseases, fractures, skin diseases etc.

In diarrhoea and cholera the following, called *A'marāshasi*,² is used. Take of opium, nutmeg, cloves, cinnabar and camphor,

1 चन्दनासु कषास्यन्दितालवन्तीप्रवीजित । सुष्यादाहार्दितोऽम्भीजकदलीदल-
सम्भवे । चक्रदत्त ।

2, आमराक्षसी । जातीफल खवडु स्याददिफेन मशोणिनम् । कर्पूर समभागश्च

equal parts Beat them into a mass with water, and make into four grain pills

In chronic diarrhoea and dysentery, the following called *Graham kapāta rasa*,¹ is recommended Take of nutmeg, borax, prepared talc and *datura* seeds, each one part, opium two parts, and make into two-grain pills with the juice of *Pæderia fetida* (*prasāraṇa*). In diarrhoea with anasasca the following, called *Dugdharatr*, is much used by the Kavinajas

*Dugdharatr*² Take of opium and aconite, twenty-four grains each, prepared iron ten grains, prepared talc twelve grains Beat them into a mass with milk and make into four grain pills One pill is to be given every morning with milk The diet is restricted to milk alone, water and salt being prohibited In fever with diarrhoea, opium is used in combination with arsenic, as for example in the following preparation

*Sambhunātha rasa*³ Take of orpiment, realgar, cinnabar, white arsenic, borax, aconite and alum each, one part, mercury,

वटी कुर्यात् दिरक्तिकाम् । अत्रस्योदकमुष्णन्तु अनुपानं प्रशस्यते । असाध्यत्वामरोगे तु एष एव सहोपधम् । आमराक्षसीनामाय रस परमदुर्लभम् । रसेन्द्रसारसंग्रहः ।

1 ग्रहणीकपाटरसः । जातीफल टङ्गुणम् भक्ष्यं घुस्तुरीजं समभागवूष्णम् । भागद्वयस्याद्विक्रिणकस्य गन्धालिकापत्रं रसेनमर्दयम् । चणुप्रमाणा वटिका प्रकाश्या यवा-
द्विद्व्यातग्रहणीगदेषु । समेषु मूलेषु सरक्तकेषु पक्षिष्वपक्षिषु गुदामयेषु । पथ्यं सद्विद्युद्गन्-
मन्त्रदेयं रसोत्तमोयं ग्रहणीकपाटः ।

रसेन्द्रसारसंग्रहः ।

2 दुग्धवटी । अमृतं सूर्यगुञ्जं स्यात् अद्विक्रिणं तथैव च । पञ्चरक्तिकं लौहस्य
षष्टिरक्तिकमधकम् । दुग्धेगुञ्जाद्वयमिता वटीकार्याभिपश्यन्निदा । दुग्धानुपानं दुग्धेन भोजनं
सर्वथा हितम् । शोथं नानाविधं हन्ति ग्रहणी विषमज्वरम् । मन्दाग्निं पाण्डुरोगञ्च नाशना
दुग्धवटी परा । वर्जयेत् स्वनं वारं व्याधिनि शेषतावाधम् ।

भैषज्यरत्नावली ।

3 शम्भुनाथ रसः । तालकं टङ्गुणं रक्तं फटिकारी च मनःशिला । गोदन्तं
वतसनाभञ्जं सर्वतुल्यञ्च भागिकम् । सर्वतुल्यं रसं गन्धं तन्मसं फणिफेणकम् । शक्राशनं
रसैर्भाव्यं निर्गुण्डास्य रसेन च । कनकञ्च पदरसे निम्बपत्रं रसे पत्रं । दृढगोषा रसेन

sulphur and opium, each seven parts Soak them for seven days in each of the following fluids, namely, juice of the leaves of *Cannabis sativa*, *Vitex Negundo*, *datuna* and rum Make into two-grain pills These are given with ginger juice in diarrhoea with high fever

*Akarádi churna*¹ Take of pellitory root, ginger, seeds called (*kakholā*), saffron, long pepper, nutmeg, cloves and red sandal wood, each two tolās, opium eight tolās Rub them together and pass the powder through a cloth Then add sugar, equal in quantity to all the above ingredients Dose grains six to twelve, with honey This medicine is used as an aphrodisiac.

Opium enters into the composition of some external applications in the form of paste, along with other medicines A poultice made of poppy seeds with milk is prescribed by Sāran-gadhara in porrigo of the scalp²

The Amritasāgar recommends the following preparation of opium in diabetes Take of camphor and musk, each one part, opium and mace, each four parts Make into two-grain pills. They are administered with the juice of betel leaves

मावयेत् कुषलोमिपक् । वटी रक्तिद्वयं कुर्यात् शृङ्गवेरानुपानत । सर्वरूप सान्निपातम
तिसारश्च नाशयेत् । ग्रहणी मामदोषश्च ज्वरं सर्वं विनाशयेत् । उद्वेगे मस्तके तैलं पथ्यश्च
दधिभक्तकम् । शीतोपचारं कर्तव्यं क्रमेण गुणवर्द्धते । शङ्खुनाथ इति स्वतो महादेवेन
भाषितः ।

भेषज्यतन्त्रः ।

1 अकारादिचूर्णम् । अकाराकरमं शुष्कीकृत्वा कुङ्कुमं कणः । जातीफलं
सबज्जश्च चन्दनश्चैतिकाधिकान् । चूर्णानिमास्ततः कुर्यादद्विफेणं पलोन्मितम् । सर्वमेकी-
कृतं चूर्णं सूक्ष्मं तद्वस्त्रगालितम् । सिनासर्वसमादेयामाषैकं मधुनालिहेत् । शक्रस्तम्भकरं
चूर्णं पृथगमानन्दकारकम् । नारीणां प्रीतिजननं सेवेतनिशिकासुकम् ।

शार्ङ्गधरः ।

2 दग्धेन खाखसबीजं प्रलेपाद्वाप्यं कयेत् ।

शार्ङ्गधरः ।

NAT ORDER CRUCIFERÆ.

SINAPIS.

Sans सिद्धार्थ, *Siddhārtha* राजिका, *Rājikā*.

Vern *Sarishā*, *Rār Sarishā*, Beng.

Two varieties of mustard are mentioned by Sanskrit writers, namely, *siddhārtha* or white mustard, (*Sinapis glauca* of Roxburgh, *Brassica campestris*, L) and *rājikā* or dark brown variety, (*Sinapis ramosa* of Roxburgh, *Brassica juncea*, Hooker, fil, et Thomson) The latter is more pungent and preferred for external application as a rubefacient Mustard oil is largely used by the natives for culinary purposes as well as for anointing the body before bathing. Mustard oil anointment is said to keep the body cool, and the skin soft, to promote the growth of hair and to remove prurigo, lice and scurf The leaves of the mustard plant are used as a pot-herb, and considered pungent and stomachic

Mustard enters into the composition of emetic mixtures, of which the following is an example Take of mustard seeds, *Acorus Calamus* root (*vacha*), bark of *Symplocos racemosa* (*lodhra*), and rock salt, equal parts Powder and mix¹

Mustard forms an ingredient of several prescriptions for loss of appetite, indigestion, etc. Thus take of mustard seeds, cumin seeds, fried assafoetida, ginger and rock salt, equal parts. Powder and mix Dose, grains twenty-two with butter-milk

Mustard is used externally, alone, or in combination with other medicines in a great variety of diseases, and notably in parotitis, sciatica, paraplegia, gout, inflammatory swellings, urticaria etc Sārangadhara recommends the following application² in urticaria Take of mustard seed, turmeric, *pāṭchuk* root, sesamum and the seeds of *Cassia Tora* (*chālā amardaka*), equal

1. सिद्धार्थक वचालीध सैन्धवैश्चप्रलेपनम् । वसनञ्च निहन्त्याय पिडका यौवनी
क्ष्वाम् । चक्रदत्त ।

2 सिद्धा^१ रजनीकुष्ठप्रप्राटितिलै सह । कटुतैलेन समिश्रमुदक्षं विलेपनम् ।
शाहधर ।

parts, and rub them together into a paste with mustard oil In gout, sciatica, etc, simple mustard plasters are used¹ In inflammatory affections, the following poultice is prescribed by Sāraṅgadhara Take of the root of *Boerhaavia diffusa* (*punarnavā*), wood of *Berberis Asiatica* (*dāruharidī*), root of *Moringa pterygosperma* (*sobhāṅjana*), ginger and mustard seeds, equal parts, and rub them into a paste with fermented rice water²

LEPIDIUM SATIVUM The seeds of *Lepidium Sativum*, called *Chandī a surā* in Sanskrit, and *Halim* in Hindi, are described as tonic and alterative, and useful in hiccup, diarrhoea, and skin diseases from disordered blood It is said to be a very efficacious remedy in hiccup, for which the Bhāvaprakāśa gives the following formula *Hālim* seeds are macerated in eight times their weight of water, when the seeds are softened they are rubbed in the water, and the emulsion strained through cloth This emulsion is recommended to be given frequently in doses of about an ounce for the relief of obstinate hiccup.³

NAT ORDER CAPPARIDACEÆ.

CRATÆVA RELIGIOSA

Syn. Capparis trifoliata Rox

Sans वरुण, Varuna. अस्मरिन्ना, Asmarighna

Vern Barun, Beng Hind

THE bark of the stem and root of this plant constitutes the principal medicine of the Hindu Pharmacopœia, for calculous affections It is said to promote the appetite, increase the secretion of the bile, act as a laxative and remove disorders of the urinary organs

1 गौरसर्पपक्वलेन प्रदेहीवा रजापह ।

भावप्रकाश ।

2. पुनर्नर्वादावच्छेदी सिद्धार्थं शिष्यमेवच । पिष्ट्वाचैवारनालेन प्रलेपः सर्वशोथहा ।
शार्द्धधर ।

3 चन्द्रमूर रस । चन्द्रमूरस्य बीजानि क्षिपेदष्टगुणे जले । यदा नृदूनि नृदीयात्त-
तोवाससि गालयेत् ॥ हिक्कातिवेगविकलस्तल्लज पल्लवावया । पिबेत् पिबेत् पुनश्चापि
हिक्कावश्य प्रशमायति ॥

भावप्रकाश ।

In calculous affections it is used in a great variety of forms. Thus a simple decoction of the bark may be given with the addition of treacle¹ A compound decoction is prepared along with equal parts, of *Tribulus terrestris* (*gokshura*) and ginger and is administered with the addition of *yavakshára* and honey² A compound powder called *Varunádya churna*³ is prepared as follows. A solution of the ashes of *varuna* is made as directed under the Lead of alkaline water (*Kshárodaka*) This solution is boiled with the addition of *varuna* bark in powder and *yavakshára* (impure carbonate of potash), till the water is entirely evaporated The resulting powder is given in ascites, calculus, enlargements of the abdominal viscera, and affections of the bladder and uterus A confection called *Varunádya guda* is prepared by adding to the fluid extract of the bark, treacle and a number of diuretic and aromatic substances

*Varunádya ghrita*⁴ Take of coarsely powdered *varuna* bark twelve seers and a half, water sixty-four seers, boil together till reduced to one-fourth and strain To the strained decoction, add four seers of clarified butter, and two tolas each of the following substances in the form of a paste, namely, *varuna* bark, unripe

1 वरुणलक्कपायनु पीतञ्च गुडसयुतम् । अश्मरी पातयत्याय वस्तिशूलनिवारणम् ।
चक्रदत्त ।

2 वरुणस्य लवच ओष्ठा शृङ्गीचुरसयुतम् । यवचारागुड दत्त्वा कार्यायित्वा पिवेद्वि-
ताम् ।

चक्रदत्त ।

3 वरुणकमलपरिश्रुत सलिल तच्चूर्णं यावश्शुकयुतम् । कथनीय तच्चावद्यावच्चूर्णत्व-
मायाति । तदगुडयुक्तं हन्यात् तदुदारामश्मरीं घोराम् । शीघ्रान् गुल्मवर ओष्ठा
कुक्षीयजा तीव्राम् ।

भावप्रकाश ।

4 वरुणाद्यं घृतम् । वरुणस्य तुला क्षुणा जलद्रीणे विपाचयेत् । पादशेष परि-
क्षाव्य घृतप्रस्थं विपाचयेत् । वरुण कदली विल्व तण्डुल पञ्चसूलकम् । अमृतावाग्मज
देय बीजञ्च द्रुपदीद्वयम् । शतपर्वतिलचार पलाशचारमेवच । यूथिकायाश्च मूलानि
कार्षिकाणि समावपेत् । अस्य मादा पिवेज्जन्तु र्देशकालाद्यपेक्षया । जीर्णे तस्मिन् पिवेत् पूर्व-
गुड जीर्णन्तु मक्षुना । अश्मरीं शर्कराञ्चैव मूत्रक्षक्ष्णं च नाशयेत् ।

भावप्रकाश ।

plantains *bela* fruit, the five roots called *trinaja pancha mulaka* (see Sugar cane), *gulancha*, leaves of *Coleus aromaticus* (*asma-bheda*), cucumber seeds, *Acorus calamus* root, bamboo-manna, the ashes of *Sesamum Indicum* (*tila*) and of *Butea frondosa* (*palāsa*) and the root of *Jasminum auriculatum* (*juthaká*) Boil them together and prepare a *ghrita* in the usual way. It may be given in doses of one to two *tolás*, according to the constitution of the patient After this medicine is digested, butter-milk and treacle should be taken

*Varundīya tarla*¹ This is an oil prepared with *varuna* bark, for injection into the bladder Take of *varuna* bark and of the entire plant of *Tribulus terrestris* (*golshunā*), two seers each, water sixty-four seers, boil together till reduced to one-fourth and strain Boil this strained decoction with four seers of prepared sesamum oil and half a seer each, of the above mentioned drugs in the form of paste This oil is recommended to be injected into the bladder, for the relief of painful micturition, calculus and gravel

In scrofulous enlargement of the glands under the lower jaw, a decoction² of *varuna* bark is prescribed by several writers It is said to cure even old standing cases In internal or deep seated suppurative inflammation, a decoction of *varuna* and *Boerhaavia diffusa* (*punarnavā*) is given internally³

NAT ORDER MORINGACEÆ.

MORINGA PTERYGOSPERMA

Sans शोभाञ्जन, *Sobhānjana* सिंगु, *Singu*.

THIS plant is cultivated all over the country for the sake of it's leaves, flowers, and seed vessels which are used by the natives

1 वरुणाद्यं तैलम् । त्वक्पत्रमूलपुष्पस्य वरुणात्मविकण्टकात् । कपायेण पचेत्तैलं
वस्त्रिणा स्थापनेन च । शकराश्लरीशूलञ्च सूक्ष्मञ्च निवारणम् । चक्रदत्त ।

2 काञ्चनारत्वच क्वाथं शण्टीचूर्णेन नाशयेत् । शण्डनाला तथा क्वाथं चौद्रेण
वरुणत्वच । शार्ङ्गधर ।

3 पुनर्नवावरुणयो क्वाथीन्तर्विद्रधिञ्जयेत् । शार्ङ्गधर ।

in their curries. The root is described as acrid, pungent, stimulant and diuretic. Applied externally it acts as a rubefacient. The seeds are described as acrid and pungent and are used externally as a stimulant. They are called *Sveta maricha* that is white pepper. The *Bhāvaprakāśa* describes two varieties of *sobhānjana*, namely, white and red. The root of the white variety is said to be a stronger rubefacient, while that of the red, is preferred for internal use, for promoting the appetite and acting on the excretions.

In ascites and enlarged spleen, a decoction¹ of the root-bark of *Moringa pterygosperma* and the leaves of *Rumex vesicarius* (*amlaloniā*) is given with the addition of long pepper, black pepper and rock salt in powder. In enlarged spleen and liver, a decoction of the root-bark is recommended to be given with the addition of plumbago root, rock salt and long pepper, or of the ashes of *Butea frondosa* (*palāsa*), or of *yavakshāra* (impure carbonate of potash)²

In internal and deep seated inflammation and abscess (*vidradhī*) a decoction of the root-bark is recommended to be given with the addition of assafoetida and rock salt³. The expressed juice of the root-bark is also given in these cases, with the addition of honey or rock salt⁴. The root-bark is used externally in the shape of plaster, and the inflamed part is fomented with its decoction⁵.

1. धीत. छीहीदर हन्यात्पिप्पलीमरिचान्वित । अस्रवेतससंयुक्त. शिशुकाय. समैस्त्व ।

चक्रदत्त ।

2. शीभाञ्जनकनिर्धूह सैस्त्वान्निकणान्वितम् । पलाशचारयुक्त वा यवचार प्रधोजयेत् ।

चक्रदत्त ।

3. शीभाञ्जनक निर्धूहीहिङ्गुसैस्त्वसंयुत । अचिरं विद्रधि हन्ति प्रात प्रतिनिये-
वित ।

चक्रदत्त ।

4. शिशुमूल जले धीत दरपिष्टं प्रगालयेत् । तद्रसमधुना पीत्वाहन्तान्तर्विद्रधि-
नर ।

चक्रदत्त ।

5. खेदोपनादा कर्तव्या शिशुमूलसमन्विता ।

चक्रदत्त ।

In calculous affections the decoction of the root-bark is given internally ¹

The seeds of *Moringa pterygosperma* enter into the composition of some stimulant applications The following is an illustration Take of the seeds of *Moringa pterygosperma*, rock salt, mustard seeds and *putchuk* root, equal parts, and reduce them to a paste with goat's urine When dried this is used as a snuff for rousing comatose or drowsy persons ² The fresh juice of the root bark is recommended to be poured into the ears, for the relief of otalgia The gum of the tree mixed with sesamum oil, is also used for the same purpose ³

NAT. ORDER GUTTIFERÆ

MESUA FERREA.

Sans नागकेशर, *Nágakesara* *Vern* *Nágkesar*. *Beng* *Hmd*.

THE dried flowers of *Mesua ferrea* are much used as a fragrant adjunct to decoctions and oils. They are regarded as astringent and stomachic and useful in thirst, irritability of the stomach, excessive perspiration etc A paste of the flowers with the addition of butter and sugar is recommended by most of the later writers, to be taken in bleeding piles The powdered flowers mixed with old clarified butter, that has been washed a hundred times in water, are said to be an effectual application in burning of the feet ⁵

1 कायस्य शिषुमूलोय कटुष्णोऽग्निरोघातन ।

चक्रदत्त ।

2 सैन्धव श्वेतसरिच सर्पिषा कुष्ठमेव च । वस्तुमुत्रेण सपिष्ट तन्द्रालस्य निवारणम् ।

भावप्रकाश ।

3 शीभाञ्जनकनिर्यासस्त्रिलतेत्वेन सयुत । व्यक्तीण पुरुष कर्णे कर्णशूलोपशान्तये ।

चक्रदत्त ।

4 नवनीततिलै कल्कीजतारक्ताशसा स्मृत । नवनीतसितानागकेशरश्चापि तद्विध ।

शार्ङ्गधर ।

5. नागकेशरचूर्णं वा शतधीतेन सर्पिषा । पिष्ट्वालेप्यो विधातव्योदाहे हर्षे च पादयो ।

चक्रदत्त ।

NAT ORDER DIPTEROCARPEÆ.

SHOREA ROBUSTA

Sans शाल, *Sála*, अयकण, *Asvakarna*

THE resin of *Shorea robusta*, called *Rála* in Sanskrit and *Dhurná* or *rál*, in the vernacular, is regarded as astringent and detergent and is used in dysentery, and for fumigations, plasters, etc. The resin thrown over the fire gives out thick volumes of fragrant smoke, and is much used for fumigating rooms occupied by the sick. It is also a common practice with natives to burn some *rál* in their rooms every evening, about the time that *chrysas* or lamps are lighted, as also during the worship of idols.

In the dysentery of children *rál* is recommended to be given in doses of about twenty grains, with an equal quantity of sugar or treacle¹

Rál enters into the composition of some plasters and ointments. The following is an illustration. Take of *rál*, rock salt, treacle, wax, honey, bdellium, red ochre and clarified butter, in equal parts, boil them together and prepare an ointment²

NAT. ORDER. MALVACEÆ.

SIDA CORIFOLIA

Sans बला, *Balá* वाटपाचक, *Bátyálaka*

Vern Berela, Beng *Khareti*, Hind

FOUR varieties of *balá* are mentioned by Sanskrit writers, namely, *Bátyálaka*, (*Sida cordifolia*), *Mahábala* (*Sida rhomboides*)^{*} *Atabalá*, (*Sida rhombifolia*), *Nágabalá*, (*Sida alba*). The roots of all these species, are regarded as cooling, astringent, tonic and useful

* This is only a variety of *Sida rhombifolia*, L

1 श्रुतीवा याद वा रक्तशुपकी ग्रहणीगद गुडीनाधिकसर्जेन भक्षितेनाशुनश्यति ।

भा०प्रकाश ।

2 सिन्धुसम्भवगुडभधुमहिषाक्षगैरिक सष्टतम् । सिक्थिकरेतसकं पादम्कुटनापहं
सिद्धम् । चक्रदत्त ।

in nervous diseases, urinary diseases and disorders of the blood and bile In intermittent fever, a decoction of the root of *Sida cordifolia* and ginger is given¹ It is said to be useful in fevers with cold shivering fits, followed by strong heat of body The powder of the root-bark is given with milk and sugar, for the relief of frequent micturition and leucorrhœa²

In diseases of the nervous system, such as insanity, paralysis, facial palsy, etc the root of *Sida cordifolia* is used alone or in combination with other medicines, as in the following, called *Másha baládr kvátha*³ Take of the pulse of *Phaseolus Roxburghii* (*másha*), root-bark of *Sida cordifolia* (*balá*), root of castor oil plant and of *Mucuna pruriens* (*átmagutá*), *Hygrophila polysperma* (*katrima*), *Vanda Roxburghii* (*ásná*), and *Withania somnifera* (*asvagandhá*), equal parts, in all two tolás, and prepare a decoction in the usual way It is administered with the addition of assafoetida and rock salt, in hemiplegia, stiff neck, facial paralysis, and noise in the ears with headache An oil for external application in these diseases, called *Balátarla*⁴ is thus prepared Take of the root of *Sida cordifolia*, four seers, water, thirty-two seers and boil down to eight seers To this decoction, add eight seers of milk, four seers of prepared sesamum oil, and one seer of the root of *Sida cordifolia* in the form of paste, and prepare an oil in the usual way

1 महाबलामूल सहैषधाभ्या काथी निहत्याद्विषमज्वर हि । शीत सकम्प परि-
दाहयुक्त विनाशयेत् द्विविदिनप्रयोगात् ।

भावप्रकाश ।

2 प्रदर हन्ति बलाया मूल दुग्धेन मधुयुत पीतम् ।

चक्रदत्त ।

3 माषबलादि । माषबलाद्यकशिखीकटणरास्त्राश्वगन्धेरूकाणाम् । काथो
मसुनिपीतो रामटलवणान्वित कोण । अपहरति पक्ष्वात सन्यास्तम्भ सकर्षणादरुजम् ।
दुर्जयमर्दितवात सहाहाज्यतिचावश्यम् ।

चक्रदत्त ।

4 बलातैलम् । बलानि कायकल्काभ्या तैलपक्व प्रयोजितम् । सर्ववातविका-
रभ्रमेव शैरीयपाचितम् ।

चक्रदत्त ।

BOMBAX MALABARICUM.

Sans शाल्मली, *Salmali*, चीचा, *Mochā*

Vern *Simul*, *Rakta Simul*. Beng

"THIS is one of the largest of our Indian trees, often about one hundred feet high and the trunk thick and ramous in proportion Flowering time the end of winter, when the tree is totally destitute of leaves The great numbers of very large bright red flowers with which it is then covered make it remarkably conspicuous at a very great distance" The thick stems are used for making large boats called *kondas*, from their being made by hollowing out the trunks Some of these boats are large enough to carry a freight of a thousand maunds. The smaller floats are in very common use in Eastern Bengal, for crossing over rice fields during the rainy season In fact during the rains these little floats, constitute the only mode of conveyance from village to village in low alluvial tracts The thick beds and pillows of the natives are stuffed with the Cotton attached to the interior of the seed vessels of this plant, while the thin quilts and stuffed clothing for winter, are made with *kārpāsa* (cotton of *Gossypium herbaceum*)

The gum of this tree, called *mocharasa* is used in medicine * It is considered astringent, tonic and alterative, and is used in diarrhoea, dysentery and menorrhagia *Mocharasa* with sugar in equal parts, is given in doses of twenty to forty grains, in the diarrhoea of children. In the dysentery of children, the following is used. Take of *mocharasa*, flowers of *Woodfordia floribunda* (*dhātaki*),

In the Pharmacopœia of India it is stated "To this tree (*Bombax Malabaricum*), which is common in some parts of India, two drugs which hold a prominent place in the Native Materia Medica, have been usually but erroneously referred to 1 An astringent gummy exudation, *Mucherus* (Hind) Its botanical source is unknown 2 Dried roots well known as *Safed Musli* (Hind)" The Sanskrit term *Mocharasa* of which the Hindi *Mucherus* is a corruption, means the juice or exudation of the *Mocha* tree, and *Mocha* is one of the Sanskrit names of *Bombax Malabaricum* Hence there can be no error in attributing the origin of *Mucherus* to *Bombax Malabaricum* *Safed Musli* is the *Tālamuli* of Sanskrit Materia Medica, the *Hypoxis orchoides* of Botanists

root of *Mimosa pudica* (*lajjalu*), and the filaments of the lotus, equal parts, in all one tolá, powdered rice one tolá, water eleven tolás, and boil together to the consistence of a gruel (*yavágu*)¹ In the dysentery of adults a decoction of *bela* fruit in goat's milk, is given with the addition of powdered *mochanasa* and *indragava* seeds²

HIBISCUS MOSCHATUS Sans लताकस्तुरिका, *Latakasturiká*, Vern *Latakasturi* Beng The scented seeds of this plant are much used in perfuming medicinal oils They also enter into the composition of some compound prescriptions, being regarded as cooling, tonic and carminative

PAVONIA ODORATA Sans बाबा *Bálá*, ह्रीवेर *Hrivena* Vern *Sugandha bálá*, Hind The fragrant roots of this plant are considered aromatic, cooling and stomachic and are much used in combination with other medicines of the sort in fever, inflammation, hemorrhage from internal organs etc *Bálá* enters into the composition of a well-known fever drink called *shadanga pánvya*, (see *Andropogon muricatum*)

NAT. ORDER. STERCULIACEÆ.

PTEROSPERMUM SUBERIFOLIUM Sans. मुचुकुन्द, *Muchukunda*. The flower of this tree, rubbed into a paste with *kángika* is an ancient and well known application for hemiplegia It is mentioned by many writers and is used even at the present day, as a domestic remedy³

1. मोचरस समझाव धातकौषधकेशरम् । पिष्टैरेर्यवायु स्याद्रक्तातीसारनाशिनी ।

भावप्रकाश ।

2 विल्व कागपय सिद्ध सिनामीचरसान्वितम् । कलिङ्गचूर्णसंयुक्त रक्तातिसार-
नाशनम् ।

चक्रदत्तः ।

3 शिरोर्तिवातजा हन्यात्पुष्प वा मुचुकुन्दजम् ।

शार्ङ्गधरः ।

NAT ORDER GERANIACEÆ

OXALIS CORNICULATA.

Sans अखलोष्णिका, *Amlaloniká* चाङ्गेरी, *Chángeri*.

Vern *Ámrulsák*, *Beng*

THE leaves of *Oxalis corniculata* are used as a pot herb. They are considered cooling, refrigerant, appetizing and stomachic. The fresh juice of the leaves is given to relieve intoxication from *datura*, and is said to be useful in dysentery and prolapsus of the rectum, for which it is recommended by most writers. Chakradatta gives the following formula for preparing a *ghrita* with this medicine.

*Chángeri ghrita*¹ Take of clarified butter, four seers, the fresh juice of *Oxalis corniculata*, four seers, curdled milk called *dadhi*, sixteen seers and the leaves of *Oxalis corniculata* reduced to a paste, one seer. Boil them together in the usual way and prepare a *ghrita*. This preparation is said to be useful in diarrhoea, dysentery, prolapsus of the rectum, tympanites, piles and difficult micturition. The Bhāvaprakāśa gives the following process for preparing a compound *ghrita*². Take of the fresh juice of *Oxalis corniculata*, decoction of jujube fruits and ginger, alkaline water (see Alkalies), and curdled milk, each four seers, clarified butter four seers, and prepare a *ghrita* in the usual way. It is recommended for use in prolapse of the rectum.

AVERRHOA CARAMBOLA *Sans* कम्बोद, *Kamaranga*. *Vern* *Kámraṅgá*, *Beng* and *Hind*. The five-angled fruits of this plant contain an acid watery pulp, and are eaten raw as well as in curries. They enter into the composition of some cooling medicines for fever and other diseases.

1. चाङ्गेरीरुतम् । चाङ्गेरी खरसे सर्पि कल्कैरेतिर्विपाचितम् । चतुर्गुणे च दध्ना च तद्घृत कफवातनुत् । अर्शसि ग्रहणीदोष मूलकच्छ्र प्रवाहिकाम् । गुदधर्माश्चिमानाह धृतमेतद्गोहितम् ।

चक्रादत्त. ।

2 चाङ्गेरी कील दध्यक्ष चार नागर सयुतम् । धृत विषक् पातव्यं गुदधर्माश्रदापहम् ।

भावप्रकाश. ।

NAT ORDER ZYGOPHYLLACEÆ

TRIBULUS TERRESTRIS

Sans गोक्षुरी, *Gokshura* इक्षुगन्धा, *Ikshugandhā*

Vern. *Gokshura*, *Beng Hind*

THIS plant is also called *Sthala srngātaka* and *Trikantaka*, from the resemblance of its fruits to those of *Thapa bispinosa* and from their being armed with three spines. The entire plant but more particularly the fruits are used in medicine. They are regarded as cooling, diuretic, tonic and aphrodisiac and are used in painful micturition, calculous affections, urinary disorders and impotence. The fruits constitute an ingredient of *Dasamula* (see *Desmodium gangeticum*)

A decoction of the fruits is given with the addition of *yava-kshāra* (impure carbonate of potash), in painful micturition¹. A decoction of the entire plant is given with *ślāṣatu* (a bituminous substance) and honey, in the same affection. Equal parts of *gokshura* and sesamum seeds, taken with goat's milk and honey, is said to cure impotence arising from bad practices².

*Gokshurādya valeha*³ or electuary of *gokshura* is prepared as follows. Take of the entire plant of *Tribulus terrestris*, twelve

1 क्वाथ गोक्षुरबीजस्य यवचारयुतं पिवेत् । मूत्रकृच्छ्रे सकृच्छ पीतं शीघ्रं निवारयेत् ।

चक्रदत्त ।

2 समतिलगोक्षुरचूर्णं क्षाभीचीरेणसाधितं समधु । भुक्तं क्षपयति पाण्ड्य यज्जनितं कुप्रयोगेण ।

भावप्रकाश ।

3. गोक्षुरकायवलेहः । गोक्षुरकसदृशमूलफलं गृहीत्वा, सङ्कुट्टितं पलशतं क्षयितं तु तोये । पादस्थितेन सलिलेन पलानि दत्वा पञ्चाशतन्तु विपचेदयं शर्कराया । तस्मिन् घनतृमुपगच्छति चूर्णितानि दद्यात् पलद्वयमितानि सुभोजनानि । शुण्ठीकणामरिचनागदल-तृगैलाजातीयक्रीपककुभवपुष्पीफलानि । वाशीपलायकमिह प्रणिधायनित्यम् लेह्यं तु यद्व सन्दतं फलसन्धितन्तु । इक्षुग्राय मूत्रपरिदाहं विवन्धं यकृदृच्छ्राश्मरीं वधिरमेहमधुप्रसेहान् ।

भावप्रकाशः ।

seers and a half, water, sixty-four seers and boil till reduced to one-fourth To the strained decoction, add six seers and a quarter of sugar and again boil till reduced to the proper consistence for an electuary, then add the following substances in fine powder, namely, ginger, long pepper, black pepper, cinnamon, cardamoms, flowers of *Mesua ferrea* (*nágakesara*), leaves called *tejapatra*, nutmeg, bark of *Terminalia Arjuna*, and cucumber seeds, each sixteen tolás, bamboo-manna half a seer, and prepare an electuary. It is given in doses of two tolás, in painful micturition, suppression of urine, bloody urine, calculous affections etc.

NAT ORDER RUTACEÆ CITRUS

The different species of *Citrus* described by Sanskrit writers are as follows

जम्बीर, <i>Jambua</i>	Vern	Goránebu, Beng	<i>Citrus acida</i>	Roab	Var 3
लिम्पाक, <i>Limpáka</i>	Vern	Pátnebu, Beng	do	do.	1
निम्बुक, <i>Nimbuka</i>	Vern	Kágugnebu, Beng	do.	do	2
वीजपूर, <i>Vijapura</i>	Vern	Tabánebu, Beng.	do.	do	7
चषुकर्कटिका, <i>Madhuka katiká</i> ,	Vern	Mithánebu, Beng	do	do	9
मातुलुङ्ग, <i>Matulunga</i>	Vern	Chholonga nebu, Beng	<i>Citrus medica</i> .		
करुणा, <i>Karuná</i> ,	Sans. and Beng	<i>Citrus medica</i> ,	variety of		
नागरङ्ग, <i>Nágaranga</i>	Vern	Kamlánebu, Beng	<i>C. Aurantium</i> .		

The variety of *Citrus acida*,* called *Jambua*, yields the lemon juice used in medicine *Limpáka* or *páti nebu* is much used as a sauce by the natives The fruits are cut vertically into two pieces, and the fresh juice, squeezed out with the fingers, is sprinkled on soup, *dál*, curry etc to which it imparts a pleasant acid taste and agreeable flavour A pickle of *páti nebu*, in its own juice, and salt is a popular and effectual medicine for indigestion

* *Citrus acida* is itself a variety of the *Citrus medica* of Linnæus to which species *C. Limonum*, *C. Limetta* and *C. Lumia* are also reduced

brought on by excess in eating, or by undigestible articles of diet. The fruits are first rubbed over a stone, or their rind scraped a little so as to thin it. They are then steeped in juice obtained from other fruits of the sort, and exposed to the sun for a few days with the addition of common salt. When crisp and of a brown colour, they are preserved in porcelain vessels or glass jars. This preparation is called *Jāraḥ nebu* (that is digestive lemon) in the vernacular.

The variety of *Citrus acida* called *kāguṛi nebu* has larger fruits than that of *pāṭi nebu*, and is also used as sauce like the latter, but its flavour and the fragrance of the essential oil in its rind is not so delicious.

Citrus Aurantium, or the sweet orange, comes from the valleys of the Khasia Hills and of the eastern Himalaya. It is called *kamlā nebu* in Bengali. The variety grown in the plains has an acid taste and is called *nāṛeṅgā* in the vernacular.

The Sanskrit term *karuṇā nimbu* is variously translated by different authorities. Wilson in his Sanskrit dictionary calls it *Citrus decumana*. In the *Hoitus Bengalensis* it is translated into *Citrus medica*, while Drury and other Madras authorities make the variety *Citrus Limonum*. The *Sabdakalpadrūma* does not give any synonym or vernacular term for it, so that it is difficult to say, what form it really meant. In the vernacular the term *karuṇā* is applied to a variety of *Citrus medica*.

Citrus decumana has I believe no Sanskrit name. In the vernacular it is called *Bātāvi nebu*, from its having been originally brought from Batavia. It is now much cultivated in gardens and is one of the common edible fruits of the country. Some varieties of the fruit have a pleasant taste and aroma, with little or no acidity.

Madhukarikatikā. This variety of *Citrus medica* is probably the one described by Roxburgh as *Mithā nebu*, that is sweet lemon. The variety of *Citrus* which has very large oblong fruits, almost equal in size to the shaddock, and the thick spongy rind of which constitutes the largest portion of the fruit, was shewn to me by a

gardener in Malda, under the name of *madhukarkati*. The pulp of this variety is very limited in quantity, of a bland sweetish taste and without any aroma or acidity.

Lemon juice is considered cooling, refrigerant, stomachic and useful in indigestion, dyspepsia, vomiting of meals, thirst, burning of the body, intoxication from spirituous drinks or narcotics etc. Fresh lemon juice is recommended to be taken in the evening, for the relief of dyspepsia with vomiting of meals¹. It enters into the composition of several carminative medicines for dyspepsia, such as the *Hingvāshṭaka* (see *Assafoetida*), *Kṛavyādi churna* etc.

In rheumatic affections such as pleurodynia, sciatica, lumbago, pain in the hip joints etc., Śārangadhara recommends the administration of lemon juice with the addition of *yavakshāra* (impure carbonate of potash) and honey².

*Rasāyanaṁrita lauha*³. Take of long pepper, black pepper, ginger, the three myrobalans, *bāberung* seeds, cumin and nigella seeds, *ajowan* and the seeds of *Ornithium diffusum* (*vanajamāni*), *churitta*, *trivrit*, root of *Bolbospermum mantanum* (*danti*), *nim* bark, and rock salt, each two tolas, prepared iron sixteen tolas, sugar two seers, decoction of the three myrobalans four seers, and lemon juice two seers. Boil all these ingredients together till the watery portion is evaporated, lastly add clarified butter, half a seer and

1. जम्बीरस्वरस पीत साय दन्तास्त्रिपत्तकम् ।

चक्रदत्त ।

2. बीजपूररस. पानानुसधुच्चारयुतीजयेत् । पार्श्वं हृदस्त्रिशूलानि कीडवायुघ दाहणम् ।

शाङ्गधर ।

3. रसायनामृतलौहः । त्रिकटु त्रिफला सुस्तं विडङ्गं जीरकद्वयम् । यमानीद्वयं भूनिम्बं विवृहन्तीच निम्बुकम् । सर्वेषां कार्पिकभागं सैन्धव कर्षमूर्द्धकम् । खण्डस्य षोडशपल पश्यच्च त्रिफलानलम् । जम्बीराणां रस दद्यात् पलषोडशकं तथा । पाच्यं सर्वं प्रयत्नेन लौहं दत्त्वा पलद्वयम् । सिद्धेपाके पुनर्दद्यात् दृढं पलचतुष्टयम् । सर्वरोगेषु सयोग्यं महामृतरसायनम् । गुल्मं पञ्चविधं हन्ति यत्कृत्स्नीहीदराणि च । कामलां पाण्डुरोगञ्च शीघ्रं जीर्णं चरन्तथा । रोगान् सर्वान् निहन्त्याय मास्त्रिभिर यथा ।

भैषज्यरत्नवली ।

prepare a confection Dose one to two tolas, in enlargements of the abdominal viscera, anæmia, jaundice, anasarca and chronic fever

In fever complicated with pain in the head, throat and chest, the following mixture is directed to be used as a snuff for promoting discharge of phlegm Take of lemon juice, ginger juice, rock salt, black salt, and *sonchal* salt, equal parts, and mix The mixture should be warmed a little before use

The root of the variety of *Citrus acida*, called *limpála* constitutes one of the principal ingredients in the composition of a medicine called *Yakradar i lauha*, described under Iron.

ÆGLE MARMELOS

Sans विल्व *vilva* Vern *Bela*, Beng *Hind*

THE *Ægle Marmelos* is held in great veneration by the Hindus It is sacred to Siva whose worship cannot be accomplished without its leaves. Hence this tree is always met with near temples dedicated to Siva. It is incumbent on all Hindus to cultivate and cherish this tree, and it is sacrilegious to up-root or cut it down The Hindu who expires under a *bela* tree, excepts to obtain immediate salvation, notwithstanding that he may have committed innumerable sins

The *Ægle Marmelos* is used in medicine in a variety of ways The unripe or half ripe fruit is regarded as astringent, digestive and stomachic and as useful in restraining discharges from the alimentary canal The ripe fruit is described as sweet, aromatic, cooling and laxative It is not easily digested and has a tendency to cause flatulence The dried pulp of the fruit, called *Vilva peshakká* in Sanskrit, is regarded as astringent, and specific for dysentery The root-bark is considered useful in diseases supposed to be caused by deranged air It constitutes an ingredient of *dasamul* or the ten roots, (see *Desmodium gangeticum*) The fresh juice of the leaves is given with honey as a domestic laxative and febrifuge

The dried pulp of the fruit is given with treacle, in recent dysentery with griping, pain in the loins and costiveness¹ A compound powder² is prepared with equal parts of dried *bela*, tubers of *Cyperus rotundus* (*mustaka*), flowers of *Woodfordia floribunda* (*dhātaki*), root of *Stephania hernandifolia* (*pāthā*), ginger and *mocharasa*. It is given in doses of twenty-two to forty-four grains with butter-milk and treacle. In the dysentery of children a decoction and an electuary of the following drugs is used, namely dried *bela*, fruits of *Pothos officinalis* (*gojapippuli*), root of *Pavonia odorata* (*bālā*), flowers of *Woodfordia floribunda* (*dhātaki*), and bark of *Symplocos racemosa* (*lodhā*), in equal parts³

A decoction of the root of *Egle Marmelos*,⁴ is given with sugar and fried rice, for checking diarrhoea and gastric irritability in infants

The fresh juice of the leaves is given, with the addition of black pepper, in anasarca with costiveness and jaundice⁵ In external inflammations, the juice of the leaves is given internally, to remove the supposed derangement of the humours

Valva tarla is thus prepared⁶ Take of dried *bela* fruits, twelve seers and a half and boil in sixty-four seers of water, till reduced

1. गुडेन खाद्येद्विलं रक्तातिसारनाशनम् । आमशूलविषमघ्न कुचिरीगविनाशनम् ।

चक्रदत्त ।

2 विषवाब्द धातकी पाठा शुष्की मोचरसा, समा । पीता रुन्धन्तरीसारं गुड-
तक्रेण दुर्जयम् ।

चक्रदत्त ।

3 विल्वश्चपुष्पाणिच घातकीना जलं सखीघ्नं गजपिप्पलीच । काथाबलेही मधुना
विमिश्रौ बालेषु योग्यावतिसारितेषु ।

चक्रदत्त ।

4 विल्वमूलकपायेण लानाथैवसर्करा । आलोड्य पाययेद्बालं बर्द्धन्तीसार-
नाशनम् ।

चक्रदत्तः ।

5 विल्वपत्ररसं पूतं सोषणं श्रयथीविजे । विड मङ्गचैवदुर्नाम्नि बिदध्यात्कामला
क्षयि ।

चक्रदत्त ।

6. विल्वतेलम् । शतं सगृह्यविल्वस्य जलद्वीये विपाचयेत् । तेनपादावशेषेण तैलपक्वम्

to one-fourth To the strained decoction, add four seers of prepared sesamum oil and six tolás each of the following substances, in the form of paste, namely, *Vanda Roxburghii* (*rásná*), *Boerhaavia diffusa* (*punarnavá*), *Aplotaxis auriculata* (*lushta*), ginger, dried *bela*, flowers of *Woodfordia floribunda* (*dhátaki*), wood of *Pinus deodara* (*devadáru*), bark of *Symplocos racemosa* (*lodhíá*), tubers of *Cyperus rotundus* (*mustaka*), *Acorus Calamus* (*vachá*), and gum of *Bombax Malabaricum* (*sálmaliveshta*), and prepare an oil in the usual way This oil is used externally in chronic bowel complaints

FERONIA ELEPHANTUM

Sans कपित्थ, Kaputtha Vern Kathbel, Beng Karth, Hind.

THE wood apple tree is met with throughout India and is cultivated for the sake of the fruits, the pulp of which is edible A *chátna*, made of the ripe pulp with the addition of oil, salt, tamarind and spices, is esteemed by many The unripe fruit is described as astringent and is used in combination with *bela* and other medicines in diarrhœa and dysentery The ripe fruit is said to be useful in hiccup and affections of the throat The leaves are aromatic and carminative

*Kaputtháshtaka churṇa*¹ Take of the pulp of unripe wood apples eight parts, sugar six parts, pomegranate juice, tamarind

विपाचयेत् । रास्त्रा पुनर्नवाकुष्ठ नागर विलुमेव च । घातकीदेवदारुचलोष्ठ मुस्त वचा तथा । शास्त्रलीवेष्टकश्चैव श्यक्कर्षद्वयं पचेत् । अस्य तैलस्य सिद्धस्य शृणु वीर्यमत परम् । दुर्णामग्रहणीरोग मतीसार सवेदनम् । कामला पाण्डुरोगश्च छमिदोषविनाशनम् । वक्रि-सन्दीपन वल्य मेदमास विवर्द्धनम् । अपचौ गण्डमालाञ्च ज्वर जीर्णं व्यपीहति । अश्विभ्या निर्मित पूर्वं विलुतैलमिदं महत् ॥

तैलावलीसग्रहोक्त ।

1. कपित्थाष्टकचूर्णम् । अष्टौ भागा कपित्थस्य षड्भाग शर्करामता । दाडिमं तन्तिडीकच श्रीफल घातकीतथा । अजमोदाच पिप्पल्य प्रत्येकं स्य, स्त्रियागिका । सरिचं जीरक धान्य ग्रान्थकं बालकन्था । सौवर्चल यमानीञ्च चातुर्जात सचिवकम् । नागरचैक

pulp, *bela* fruit, flowers of *Woodfordia floribunda* (*dhātālī*), *ājmad*, and long pepper, each three parts, black pepper, cumin seeds, coriander, long pepper root, root of *Pavonia odorata* (*bālā*), *sonchal* salt, *ājowan*, cardamoms, cinnamon, *tejapatra*, flowers of *Mesua ferrea* (*nāgakēsara*), ginger and plumbago root, each one part, powder the ingredients finely and mix Dose, about one drachm This preparation is used in chronic diarrhoea and dysentery with loss of appetite and in affections of the throat

XANTHOXYLUM HOSTILE Sans तुम्बूक, *Tumbūku*.

Vern Nepālī *dhanūā*, *Tumr*, *Hind* The aromatic and pungent fruits of this plant, resemble coriander in appearance and are used as aromatic adjuncts, in compound prescriptions and in perfuming medicinal oils.

NAT ORDER. BURSERACEÆ.

BALSAMODENDRON MUKUL

Syn *Balsamodendron Agallocha*

Sans गुग्गुलु, *Guggulu* Vern *Guggul* Beng *Hind*

Guggulu or Indian bdellium is obtained by making incisions in the tree, through which the gum resin exudes According to Sanskrit writers, new or recently exuded *guggulu* is moist, viscid, fragrant and of a golden colour It burns in the fire, melts in the sun and forms a milky emulsion with hot water. Old *guggulu* is dry and without flavour or colour, it should not be used in medicine.

Guggulu is said to be demulcent, aperient, alterative and a purifier of the blood It is used in rheumatism, nervous diseases, scrofulous affections, urinary disorders, and skin diseases In rheumatism it is used in a great variety of forms The following called *Yogarāja guggulu* is a favourite preparation

भागो स्यु प्रत्येकं सूत्रचूर्निता । कपित्थाष्टकं सच स्यात् चर्षमेतद्गुणमयान् । अतीसार
क्षयश्चैव ग्रहणीश्च व्यपोहति ।

शाङ्ग धर ।

*Yogarāja guggulu*¹ Take of plumbago root, long pepper root, *ajowan*, seeds of *Nigella sativa* (*kalājirā*), *bālcrang* seeds, seeds of *Carum Roxburghianum* (*ajamodā*), cumin seeds, *Pinus Deodara* (*devadāru*), *Chaerica officinarum* (*chavva*), cardamoms, rock salt, root of *Aplotaxis auriculata* (*kushtha*), root of *Vanda Roxburghii* (*rāsnā*) fruits of *Tribulus terrestris* (*golshura*), coriander, the three myrobalans, tubers of *Cyperus rotundus* (*maustaka*), long pepper black pepper, ginger, cinnamon, root of *Andropogon muricatus* (*usurā*), *yaval shāra* (impure carbonate of potash), leaves of *Pinus Webbiana* (*tālsapatra*) and the leaves called *tejapatra*, one part each, in fine powder, bdellium in quantity, equal to all the above ingredients Rub them together with clarified butter and preserve the preparation in an earthen pot smeared with clarified butter Dose from a half to one tola It is given in rheumatic affections and other diseases supposed to be caused by deranged air, in unhealthy ulcerations, affections of the joints etc. Another preparation called *Trayodasānga guggulu* is similar in composition to the above It is made with thirteen aromatic adjuncts, hence its name, and is recommended for use in rheumatism affecting the loins and the sacrum In rheumatism affecting the joints and bones the following preparation called *Adityapāka guggulu*² is used Take

1 योगराजगुग्गुलु । चित्रक पिप्पलीमूल यमानीं कारवीन्तथा । विडङ्गान्य-
जमोदाश्च जीरक सुरदाक्ष ॥ चव्यौलसैन्धव कुष्ठ रास्नागीचुरधान्यकम् । विफलासुक्ष्मक
व्योष त्वग्गुशोर यवाग्रजम् । तालीशपत्रं पदञ्च सूक्ष्मचूर्णानि कारयेत् । यावन्त्रेतानि
चूर्णानि तावन्मावन्तु गुग्गुलुम् । संमर्द्य सर्पिषा गाढ स्निग्धे माण्डे निधापयेत् । ततोमात्रा
प्रयुञ्जीत यथेष्टाद्वारवानपि । योगराजइतिव्यातीयोगोऽयमनृतीपम । आमवाताद्यवातादीन्
क्षमिदुद्यवणानपि । श्लेष्मागुल्मीदरानादुदुर्गमानि विनाशयेत् । अग्निञ्च कुरुते दीप्त तेजी-
वद्भिं बलन्तधा वातरोगान् जयत्येव सन्धिमल्लगतानपि ।

चक्रदत्त ।

2 अदित्यपाक गुग्गुलु वटकः । श्यक् पलाशा विफला पिप्पलीचेतिचर्षितम् ।
दशमूलाम्बुना भाव्य त्वगेलाईपलान्वितम् । दत्ता पलानि पञ्चैव गुग्गुलीर्वटकीकृतः ।

of the three myrobalans and long pepper each eight tolas, cinnamon and cardamoms four tolas each, powder the ingredients finely and soak for seven days in a decoction of the ten drugs, called *dasamula* (see *Desmodium gangeticum*) Then add forty tolas of *guggulu* and beat together into a uniform mass Dose, half to one tola

Vatāraśa ¹ This preparation is used in paralysis and nervous diseases To prepare, it take of mercury one part, sulphur two parts, the three myrobalans, three parts in all, plumbago root four parts and pure *quagulu* five parts Rub them together with castor oil for twelve hours, then add to the mass the compound powder, called *Hingvastaka* (see *Assafoetida*), in weight equal to all the above ingredients and again rub together for twelve hours. Dose, about half a drachm

Karsana guggulu ² Take of pure bdellium, *gulanča* and the three myrobalans, each two seers, water ninety-six seers First boil the *gulanča* and the myrobalans in the water till the latter is reduced to one-half, and strain the decoction, to the strained fluid add the bdellium and boil in an iron vessel till the whole is reduced to the consistence of treacle Now add to it the following

एष मासरसाभ्यासावातरोगान् विशेषतः । हन्ति सम्प्रस्थिमज्जस्थान् वृद्धमिन्द्रियनिर्यथा ।
भाव्यद्रव्यसम काय्य कायोऽष्टाश्लुतेन च । आर्द्रं यावद्दिनं भाव्य सप्तर भावनाविधि ।-
चक्रदत्त ।

1 वातारिसः । रसो गन्धी वरा वक्त्रि गुग्गुलु क्रमवर्द्धित । विभागा विफला
योज्या चतुर्भागस्तुचित्रक । गुग्गुलु पञ्च भाग स्याद्रुबुनेलेन मर्दितः । क्षिप्वा तद्वीदितं
चूर्णं तेन तैलेन मर्दयेत् । गुठिका कर्षमावान्तु भक्षयेत् प्रातरेव हि । वातारिसद्रकोद्धेष
रसो नियतसेवितः । माधेन मरुती रोगान् हरेत् सुरतवर्जितम् ।

भावप्रकाश ।

2 कैशर गुग्गुलु । विफलायास्तुत्र प्रस्था प्रस्थेकाचान्मृता भवेत् । सङ्कुटलीहृषात्रेण
सार्द्धद्रीणाम्बुना पचेत् । जलमर्द्धश्यत् चालाग्यङ्गीयादस्त्रगालितम् । तत काये क्षिपेच्छुद्धं
गुग्गुलं प्रस्थसम्मितम् । पुनर्देयमय पात्रे दाव्यासघर्षयेन्मुहू । सान्नीभूत ततोचालागुडपाक-
समाकृतम् । चूर्णीकृत्य ततस्त्वद्रव्याण्यौमानिप्रक्षिपेत् । विफलाद्विफला चोया गुडूचीपलिका-

substances in fine powder, namely, the three myrobalans, each sixteen tolas, *gulantha* eight tolas, ginger, long pepper and black pepper, each six tolas, *babarung* seeds four tolas, root of *Baliospermum montanum* (*danti*) and *Ipomoea Turpethum* (*trivit*), each two tolas, and beat them together into a uniform mass. Dose from a quarter to one tola, to be taken with a decoction of madder, tepid milk or water. This medicine is said to be useful in various skin diseases from deranged or vitiated blood. It is said to act as an alterative tonic and to improve the nutrition of the body.

*Sadanga guggulu*¹ In affections of the eyes with pain, swelling and inflammation, (rheumatic ophthalmia?) bdellium is recommended to be given with a decoction of the three myrobalans, root of *Momordica dioica* (*patala*), mim bark, and the leaves of *Adhatoda vasica* (*vasaka*). A similar preparation is recommended for secondary syphilitic ulcerations. In unhealthy ulcerations, the following, called *Amrita guggulu*² is recommended. Take of *gulantha*, root of *Momordica dioica* (*patala*), the three myrobalans, long pepper, black pepper, ginger, and *babarung* seeds in equal parts, *guggulu*, in quantity equal to all the above ingredients and beat them together into a mass. Dose about a diachm every morning.

OLIBANUM The gum of the *Salar* tree of India (*Boswellia*

मता । पडच वृषण पोक्त विडङ्गाना पलादकम् । दन्तीकर्षमिताकार्या विवृतकर्षमिता-
तथा । तत पिण्डीकृत सर्वं घृतपात्रे विनिचिपेत् । गुटिकां शाणमात्रेण युञ्ज्यादीपलपेक्षया ।
अनुपान भिषग्दद्यात्कोण नीर पयोथवा । मस्त्रिष्ठादिशृत वापियुक्तियुक्त तत परम् ।
जयेत्सर्वाणिकुष्ठानि वातरक्तं विदीपनम् । सर्वव्रणानिगुल्मास्य प्रमेहपिडकान्तथा ।

शाङ्गधर ।

1 पडङ्गगुग्गुलु । विभीतक शिवा घात्री पटोलारिष्ट वासकै । कथोगुग्गुलु-
नापेय शोधशूलाक्षिपाकहा । पित्तुश्च सत्रण शुक्र रागादी सापि नाशयेत् । एतैसापिघृतं
पक्वं रोगांस्त्राय व्यपीदति ।

चक्रादत्त ।

2 अमृतागुग्गुलु । अमृता पटोलमूल त्रिफलात्रिकटु क्षमिष्ठाणाम् । समभागाना
चूर्णं सर्वसमीगुग्गुलोभांग । प्रतिवासरमेकैका खादेदक्षप्रमाणम् । जेतुं व्रणान्वाता-
सृग्गुल्मीदरश्चयथुरोगादीन् ।

चक्रादत्त ।

thurifera), is called *Kunduru* in Sanskrit It is used as an incense and as a local application to buboes¹

MYRRH is called *Vola* in Sanskrit and is described as an article to be had in the *benrah's* shop, thereby implying it to be an imported drug It is said to be useful in fever, epilepsy and uterine affections, but is not much used in practice.

NAT. ORDER MELIACEÆ.

AZADIRACHTA INDICA.

Sans निम्ब, *Nimba*. *Vern.* *Nim*, *Beng Hind.*

THIS useful tree is indigenous to India and is cultivated all over the country for the sake of its bark, leaves and fruits These have been used in Hindu medicine from a very remote period. The bark is regarded as bitter, tonic, astrigent and useful in fever, thirst, nausea, vomiting and skin diseases The bitter leaves are used as a pot-herb being made into soup or curry with other vegetables. The slightly aromatic and bitter taste which they impart to the curries thus prepared, is much relished by some The leaves are moreover an old and popular remedy for skin diseases The fruits are described as purgative and emollient and useful in intestinal worms, urinary diseases, piles etc The oil obtained from the seeds is used in skin diseases, and ulcers

The bark is used in fever in combination with other medicines for this disease as for example, in the following compound decoction called *Amratāshtaka*² Take of *nim* bark, *gulanchara*, root of *Picrorhiza Kurroa* (*katuki*), tubers of *Cyperus rotundus* (*mustaka*), seeds of *Holarrhena antidysenterica* (*mdrayava*), leaves of

1 अवीचीरेण गोधुमककुक्कुटकुन्दुरुकस्य वा । प्रलेपनं सुखीणं स्याद्वज्रशूलहरः परः ।

चक्रदत्तः ।

2 अमृताष्टकम् । अमृतारिष्टं कटुका मुस्तैर्द्रव्यैर्नागैः । पटोलचन्दना भ्याम्-
पिप्पलीचूर्णयुक्प्रतप्तम् । अमृताष्टकमेतच्च पित्तशोथज्वरापहम् ।
वर्धं रीचकहृत्लासदाह-
दृष्ट्या निवारणम् ।

शार्ङ्गधरः ।

Momordica dioica (*patala*), ginger and red sandal wood, each quarter of a tola, water half a seer, boil till reduced to one-fourth. This decoction is given with the addition of honey and long pepper in fever supposed to be caused by deranged phlegm and bile and attended with vomiting, nausea, thirst and lassitude.

The fresh juice of the leaves is given with salt in intestinal worms, and with honey in jaundice and skin diseases. The juice of *nim* leaves and of emblic myrobalans, quarter of a tola each, are recommended to be given with the addition of clarified butter in purigo, boils and urticaria¹. *Nim* enters into the composition of several compound preparations used in skin diseases, such as the *Pancha tikta ghrita*, *Pancha nimba gudika*, *Pancha kashaya*, etc.

*Pancha tikta ghrita*². Take of *nim* bark, leaves of *Momordica dioica* (*patala*), *Solanum Jacquini* (*kantakari*), *gulancha*, and bark of *Adhatoda vasica* (*vasaka*), each eighty tolas, and boil them in sixty-four seers of water till it is reduced to one-fourth. To the strained decoction, add four seers of clarified butter and a seer of the three myrobalans in the form of a paste and prepare a *ghrita* in the usual way. This preparation is given in doses of three to six diachms in chronic skin diseases.

As an external application to ulcers and skin diseases, *nim* leaves are used in a variety of forms such as poultice, wash, ointment and liniment³. A poultice made of equal parts of *nim* leaves

1 निम्बस्य पत्राणि सदाष्टतेन धात्रीविमिश्राण्य यवीपयुञ्ज्यात् । विस्फोटकीठ क्षतं शीतपित्त कण्डू खपित्तं सञ्जसञ्जघ्नात् ।

चक्रदत्त ।

2 पञ्चतिक्तक घृतम् । निम्बं पटोल व्याघ्रीञ्च गुडूची वासक तथा । कुव्यादश-
पलान् भागानेकैकस्य सुकुटितान् । जलद्वीणे विपक्तव्यं यावत्पादावशेषितम् । घृतप्रस्यं
पचेत्तेन त्रिफलागर्भसयुतम् । पञ्चतिक्तमिदं प्ल्यात सर्पिं कुष्ठविनाशनम् ।

चक्रदत्त ।

3 निम्बारुनायत्यकदम्ब शाल जम्बूवटीडुम्बर वेतसेषु । प्रक्षालनालेप घृतानि
कुर्याच्चूर्णानि पित्ताखभवोपदशे

चक्रदत्त ।

and sesamum seeds is recommended by Chakradatta for unhealthy ulcerations¹

The following preparation of *nim* oil is prescribed by several writers for application to suppurating scrofulous glands with numerous openings. Take of the oil of *nim* seeds, four seers, orpiment, realgar, marking nut, cardamoms, aloes wood, sandal wood, leaves of *Jasminum grandiflorum* (*játipatiá*), and of *Limnanthenum cristatum* (*tagarapáduká*), each eight tolás, in the form of a paste, and water sixteen seers. Boil them together and prepare an oil in the usual way²

NAT. ORDER AMPELIDEÆ.

VITIS VINIFERA, Linn.

Sans. द्राक्षा, *Drákshá* नृदिका, *Mridviká*.

Vern *A'ngurphal*, *Kismis*, *Manakká*, *Beng Hind*

GRAPES have been known in India from a very remote period and are mentioned by Susruta and Charaka. The dried fruits called raisins, are used in medicine. They are described as demulcent, laxative, sweet, cooling, agreeable and useful in thirst, heat of body, cough, hoarseness and consumption.

Raisins enter into the composition of numerous demulcent and expectorant medicines. The following is an illustration. Take of raisins, emblic myrobalans, dates, long pepper and black pepper, equal parts, rub them together with honey and clarified butter and administer as a linctus³

Drákshá anishta. This is a medicinal wine prepared as follows. Take of raisins six seers and a quarter, water one hundred and

1. निम्बपत्र तिलै कल्को मधुना क्षतशीघ्रन । चक्रदत्त ।

2. मन शिला लभस्मात् सूक्ष्मलागु चन्दनै । जातीपल्लव कल्कैश्च निम्बतैलं विपाचयेत् । वल्मीकं नाशयेत्तद्विबुद्धिद्र वद्धस्रवम् । भावप्रकाश ।

3. द्राक्षामलक खजूर पिप्पलीमरिचान्वितम् । पित्तकासापह क्षेतत् लिङ्गान्माक्षिकसर्पिषा । शार्ङ्गधर ।

twenty-eight seers, boil them together till reduced to one-fourth, and strain. To the strained decoction add twenty-five seers of treacle and eight tolás each of the following substances in fine powder, namely, cinnamon, cardamoms, *teppatia* flowers of *Mesua ferrea* (*nágakesara*), fruit of *Aglaria Roxburghiana* (*pryangu*), black pepper, long pepper and *báberang* seeds, and set aside for fermentation. This liquor is considered invigorating and nourishing and is used in consumption, cough, difficult breathing and hoarseness¹

NAT ORDER SAPINDACEÆ

CARDIOSPERMUM HALICACABUM, *Linn*

Sans ज्यौतिष्मती, *Jyautishmati*

Vern Latáphatkar, *Nayáphatki*, *Beng*

THE root of this climbing plant is described as emetic, laxative, stomachic and rubefacient, and is used in combination with other remedies in rheumatism, nervous diseases, piles etc. The dried leaves of *Cardiospermum Halicacabum* are said to bring on the secretion of the menses². Another prescription for amenorrhœa is as follows. Take of *yautishmati* leaves, *sarghá*, (impure carbonate of potash) *Acorus Calamus* root (*vachá*) and the root-bark of *Terminalia tomentosa* (*asana*) in equal parts and reduce to a paste with milk. This medicine, should be taken in doses of about a drachm for three days³.

1 द्राचारिष्ट । द्राचा तुलार्द्धं द्विद्वौ जलस्य विपचेत्सुधी । पादशेषे कषाये च पूते शीते विनि क्षिपेत् । शुद्धस्य द्वितुलान्तरं त्वगेला पत्रं केसरम् । प्रियङ्गुसंरिचं क्षणा विद्वद्भवेति चूर्णयेत् । शृङ्ग पलोन्मिर्भोगैस्तृती भाण्डे निधापयेत् । समन्ततो घट्टयित्वा पिवेज्वातरसन्तत । उरचत चय हन्वि कासश्वास गलामयान् । द्राचारिष्टाह्वय प्रोक्तो वल-
छन्मलशोधनः । शार्ङ्गधर ।

2 सकाञ्चित् जवापुष्पं भट्टं ज्यौतीष्मतीदलम् । दुर्वापिष्टं सप्तास्यं वनिता त्वार्धं लभेत् ॥ चक्र ।

3 पीतं ज्यौतीष्मतीपत्रं सज्ज्विको घासनम् । त्पृह शीतेन पयसा पिष्टं कुसुमं जनयेत् ध्रुवम् । भावप्रकाशः ।

NAT ORDER ANACARDIACEÆ

RHUS SUCCEDANEA, Linn

Sans कर्कटशृङ्गी *Karkatasringi*

Vern Kákásringi, Beng Kakarsing, Hind

THE horn-like excrescences caused by insects on the branches of *Rhus Succedanea* are called *karkatasringi*. They "are large, hollow, thin-walled, generally cylindrical, tapering to either extremity" They are considered tonic, expectorant and useful in cough, phthisis, asthma, fever, want of appetite and irritability of stomach. Dose, about twenty grains. This medicine is much used in cough, in combination with other drugs for the disease. The following is an example¹. Take of *karkatasringi*, root of *Olerodendron Siphonanthus* (*brahmayashiti*), raisins, ginger, long pepper and *Curcuma Zedoaria* (*sati*), equal parts, powder and mix. Dose, about thirty grains with treacle or honey, in dry cough. In catarrhal fever with difficult breathing a powder composed of equal parts of *karkatasringi*, bark of *Myrica sapida* (*katphala*), and long pepper is recommended to be given in doses of about a diachm, with honey². The following called *Sringyádi churna* is much esteemed as a cough linctus for children. Take of *karkatasringi*, *átis*, and long pepper, equal parts, powder and make into a linctus with honey³.

MANGIFERA INDICA, Linn.

Sans आम, *A'mra* Vern *A'm* Beng Hind

THE Mango is well known as the most delicious of Indian fruits. The ripe fruit is somewhat laxative and useful to persons

1 भागी द्राक्षा शटी शृङ्गी पिप्पलीविश्वमेपजै । गुडतैलयुतो लेहो हितोमासत-
कासिनाम् । चक्रदत्त ।

2 मधुना केणा कट्फल कर्कटशृङ्गी भव चूर्णम् । आसामय महोये लोट्टा लीक-
मुखी भवति । भावप्रकाश ।

3 शृङ्गादिचूर्णम् । शृङ्गीप्रतिविधा छणा चूर्णिता मधुनालिहेत । शिशु कास
प्यरश्कृदिशान्त्रि वा केवचा विपात् । शार्ङ्गधर ।

of constipated habits The bark and kernel are regarded as astringent and useful in hæmorrhages, diarrhœa and other discharges

In diarrhœa, a decoction of the kernel is given alone or in combination with *bela* and ginger¹ In bleeding from the nose the juice of the kernel is recommended to be snuffed In bleeding from internal organs, a cold infusion of the barks of *Mangifera Indica*, *Eugenia Jambolana*, and *Terminalia Arjuna* is prescribed² This infusion is also used in diarrhœa The Bhavapiakāsa recommends a confection made of the juice of the ripe mango, sugar and aromatics, for use as a restorative tonic

SEMECARPUS ANACARDIUM, Linn

Sans. भल्लातक, *Bhallātaka* अरुष्कार, *Arushkara*

Vern Bhelā Beng Hind

THE acid juice of marking nuts is a powerful vesicant and is often employed by the natives for producing fictitious marks of bruises These can be distinguished from actual bruises caused by blows with a stick or other weapon, by their deep bluish-black colour and from their presenting small vesicles or minute blisters on their surface

The practice of causing blisters by the application of the juice of marking nuts among the Hindus appears to have been at one time very common, for in our ancient medical works a section or paragraph is generally devoted to the treatment of ulcerations thus produced

The ripe fruits are regarded as acrid, heating, stimulant, digestive, nervine and escharotic, and are used in dyspepsia, piles,

1 योज्यर्क्कट्प्रतिसारेषु विट्त्वाम्रास्त्रिभवस्तथा ।

पाङ्गधर ।

2 आम्रजम्बू च ककुभ चूर्णीकृत्य जलेक्षिपेत् । द्विसं तस्य पिबेत्प्रातः स चौद्र
रक्तपित्तमिव ।

शाङ्गधर ।

skin diseases, nervous debility, etc They are prepared for internal use by being boiled with cow-dung and afterwards washed with cold water Equal parts of marking nuts, chebulic myrobalans and sesamum seeds, are made into a confection with treacle and administered in doses of forty to sixty grains

Amrita Bhallátuki ² Take of ripe marking nuts divided into halves, eight seers, boil them in thirty-two seers of water till the latter is reduced to one-fourth and strain Again boil the nuts in sixteen seers of milk with the addition of four seers of clarified butter, till reduced to a thick consistence Then add sugar two seers and set aside for seven days, when the preparation will be ready for use It is described as a powerful restorative tonic, which increases the appetite, promotes nutrition and strength, prolongs life and so forth It is used in hæmorrhoids and other diseases of the rectum Dose, about one to two scruples Another confection of marking nuts, made with the addition of a number of aromatic substances, is recommended for use in skin diseases and leprosy

Marking nuts enter into the composition of some caustic applications for warts and piles They form an ingredient of a liniment for rheumatic affections called *Saṁdhavādyatila*, for which see Ginger

1 तिलभक्षतक पय्या गुडश्चेति समाशिकम् । दुर्नामकासथाशङ्गं श्लोत्तण्डुलज्वरा-
पहम् ।

चक्रदत्त ।

1 अमृतभक्षतकी । सुपक्वभक्षतफलानि सम्यक् द्विधाविदायादकसम्भितानि । विपा-
च्यतीयेन चतुर्थशेन चतुर्थशेषे व्यपनीयतानि । पुनः पचेत् क्षीरचतुर्गुणेन घृताशयुक्तेन
घनं यथा स्यात् । सितो पलापीडशभिः पलैस्तु विमिश्रासंस्थाप्यद्दिनानि सप्त । ततः
प्रयोजग्राग्निवलेन मात्रां जयेद्गुदीत्यन खिलान् विकारान् । कचान् सुनीलान् घनकुक्षिता-
ग्रान् सुपर्णदृष्टिं सुकुमारताञ्च । जव दयानाञ्च मातङ्गञ्च वलस्वर नयूरस्य हृताशदीप्तिम् ।
क्षुब्धवृद्धमलं लभते प्रजाञ्च नीरोगमब्दविशतानि वायुः ।

चक्रदत्तः ।

NAT. ORDER LEGUMINOSÆ.

SARACA INDICA, *Linn**Syn Jonesia Asoca, Roxb**Sans. अशोक, Asoka Vern Asok, Hind Beng*

DR ROXBURGH says, "when this tree is in full blossom I do not think, the whole vegetable kingdom affords a more beautiful object" It is famed in Hindu mythology from the circumstance of Sita the wife of Rāmachandra, having been confined by Rāvana in a grove of *asoka* trees The bark is much used by native physicians in uterine affections and especially in menorrhagia A decoction¹ of the bark in milk, is prepared by boiling eight tolas of the bark in eight tolas of milk and thirty-two tolas of water till the latter is evaporated This quantity is given in two or three divided doses during the course of the day, in menorrhagia A *ghrita* called *Asoka ghrita* is prepared with a decoction of the bark and clarified butter with the addition of a number of aromatic substances in the form of a paste.

GLYCYRRHIZA GLABRA, *Linn* .*Sans यष्टिमधु Yashti madhu, मधुक, Madhuka.**Vern Jashti madhu, Beng Mulhatti Hind.*

LIQUORICE root, though not indigenous to India, has been used in Hindu Medicine from a very remote period, and is mentioned by Susruta It is described as sweet, demulcent, cooling and useful in inflammatory affections, cough, hoarseness, thirst etc. It is much used for flavouring medicinal decoctions, oils and *ghritas* It enters into the composition of numerous external cooling applications along with red sandal wood, madder, *Andropogon muricatus*

1. अशोकवल्कलकथयुत दुग्ध सुशीतलम् । यथावत् पिवेत्प्रा स्त्रीवायुग्दरनाशनम् ।

etc I have not met with any notice in Sanskrit works, of the watery extract of liquorice, sold in the bazars in the shape of black pencils, and called *Rubas sus* in Hindustani

TRIGONELLA FÆNUM-GRÆCUM, Linn

Sans मेथि, Methi Vern Methi, Hind Beng

THE *Trigonella Fœnum-græcum* is extensively cultivated in many parts of India Its seeds are used as a condiment and its aromatic leaves, as a pot-herb. Fenugreek seeds are considered carminative, tonic and aphrodisiac Several confections made with this article are described under the names of *Methi modaka*, *Svalpa methi modaka* etc, and are recommended for use in dyspepsia with loss of appetite, in the diarrhœa of puerperal women and in rheumatism All these preparations consist of a number of aromatic substances, one part each, and fenugreek seed equal in quantity to all the other ingredients The following is an illustration

*Methi modaka*¹ Take of the three myrobalans, ginger, long pepper and black pepper, tubers of *Cyperus rotundus* (*mustaka*), nigella and cumin seeds, coriander, bark of *Myrica sapida* (*katphala*), *pâchak* root, *Rhus succedanea* (*karkatasringi*), ajowan, rock salt, black salt, leaves of *Pinus Webbiana* (*tâlisa*), flowers of *Mesua ferrea* (*nâgakesara*), *tejpatra*, cinnamon, cardamom, nutmegs, mace, cloves, sandal wood and camphor one part each, fenugreek seeds, in quantity equal to all the above ingredients, powder them all and prepare a confection with old treacle Dose, one to two diachms to be taken in the morning with clarified butter and honey

1 मेथिमोदक । त्रिकटुत्रिफलामुक्तजीरकद्वयधान्यकम् । कटफल प्रीष्कर खड्गी यमानी सैन्धव पिडम् । तालीश केशर पत्र तगेला च फल तथा । जातीकीष लवङ्गश्च मुराकर्पूरचन्दनम् । यावन्मूत्रानि चूर्णानि तावदेव तु मेथिका । सचूर्णं मोदक कार्यं पुरातनगुडन च । घृतन मधुनाकिञ्चित् खादेदग्निवत् प्रति । अग्निश्च कुर्वते दीपु' सार्धे मेदे सहस्रौषधम् ।

भैषज्यरत्नावली ।

ALHAGI MAURORUM, Tournef

Sans दुर्लभा, *Duralabhá*, यवास, *Yavása* Vern *Yarása Hind*

THIS plant is described as laxative, diuretic and expectorant. The thorny flower-stalks or branches are supplied by druggists as the parts used in medicine. An extract obtained by evaporating a decoction of the plant is called *yásasarhará* or the sugar obtained from *yarása*. It has a sweetish bitter taste, and is used as a demulcent in the cough of children. There is no mention in Sanskrit of any saccharine exudation or manna obtained from this plant.

The fresh juice of the plant is used as a diuretic in suppression of urine. The following compound decoction¹ is recommended by Sálingadhara in constipation with suppression of urine. Take of *Alhagi Maurorum*, chebulic myrobalans, pulp of *Cassia Fistula* (*áragbadha*), fruits of *Tribulus terrestris* (*gokshura*), and root of *Coleus aromaticus* (*páshanbhid*), prepare a decoction in the usual way, and administer it with honey. The following electuary is recommended by several writers for the cough of children. Take of the extract of *yarása*, raisins, chebulic myrobalans and long pepper in equal parts, powder and mix with honey and clarified butter².

DESMODIUM GANGETICUM, DC

Syn *Hedysarum Gangeticum* (Roxb.)

Sans शालपर्णी, *Sálaparni* Vern *Sálpáni*, Beng *Sarvan*, Hind

THIS little shrub is regarded as febrifuge and anti-catharrhal. It forms an ingredient of the compound decoction called *dasamula kvatha*, a combination much used in a great variety of diseases. *Dasamula* is made up of *Desmodium Gangeticum* (*sálaparni*), *Urena lagopodioides* (*prámaparni*), *Solanum Jacquini* (*lantakári*), *Solanum Indicum* (*vihári*), *Tribulus terrestris* (*gokshura*), *Ægle Marmelos* (*vilva*), *Calosanthes Indica* (*syonaka*), *Gmelina arborea* (*gambhári*), *Stereospermum suaveolens* (*pátala*) and *Priemna spinosa* (*qanikáriká*),

1 हरीतकी दुर्लभा कतमालक गोक्षुरे । पाषाणभेदसहितै कायामाचिक
समुत् । विदम्बमूदकच्छेच सदादेसबनेचित । शार्ङ्गधर ।

2 द्राक्षा वासामया कणा चूष सक्षीद्र सर्पिषा । लोढा शस निहन्त्राश कासश्च
तमकं तथा । चक्रदत्त ।

The first five in the above list, are collectively called *hrasva-pancha mula* or the five minor plants, and the last five are called *vrihat pancha mula* or the five major plants. A decoction of the *hrasva pancha mula* is used in catarrhal fever, cough and other diseases supposed to be caused by deranged phlegm. The *vrihat pancha-mula* is used in fever and other diseases supposed to be caused by deranged air. The ten drugs together are used in remittent fever, puerperal fever, inflammatory affections within the chest, affections of the brain and many other diseases supposed to be caused by derangement of all the humours¹. Another combination called *Ashtāḍaśāṅga pāchana* consists of the ten drugs above mentioned, with the addition of the eight following, namely, *chiretā*, *devadāru*, ginger, tubers of *Cyperus rotundus* (*mustaka*), root of *Picrorrhiza Kurroa* (*katuki*), *indrayava* seeds, coriander, and fruits of *Pothos officinalis*. A decoction of these eighteen drugs is used in fevers of a severe type with drowsiness, delirium, picking of bed clothes, insensibility, and difficult breathing. A preparation of aconite and arsenic is generally given along with it.²

Dasamula taila. This is an oil prepared with a decoction of the ten drugs above mentioned, and is much used as a cooling application in headache and other diseases. To prepare it take of the ten drugs, in all twelve seers and a half, water sixty four seers. Boil down to sixteen seers and strain. To the strained decoction add four seers of lemon juice, four seers of prepared sesamum oil and a seer of the usual aromatics and colouring agents in the form of a paste and boil them together.

1 दशमूलम् । विल ग्योनाक गाम्भारी पाठला गणिकारिका । दीपन कफ-
वातघ्नं पञ्चमूलमिदं महत् । शालपर्णी श्वित्रपर्णी वृक्षतीक्ष्ण गोक्षुरम् । वातपित्तहरं वृष्य
कनीयं पञ्चमूलकम् । उभय दशमूलस्तु सन्निपातज्वरापहम् । कासे श्वासे च तन्द्रायां
पार्श्वशूलेषु शस्यते । पिप्पलीचूर्णसंयुक्तं कण्डूदुग्धपचणशमम् ।

चक्रदत्त ।

2 पित्तशोषहरोऽष्टादशाङ्गः । मूनिष दास दशमूल सद्योपधाब्द तिक्तीन्द्रवीज
भनिकेभ कणिकापय । तन्त्रप्रनाप कसनाक्षि दाहमोह श्वासादियुक्तमखिल ज्वरसाथ
हन्ति ।

चक्रदत्त ।

URARIA LAGOPODIOIDES, *DC Edgew. Syn Doodia lagopodioides Rorb Sans* रुद्रिपर्णी *Prusnaparn Vern Chákulá, Beng Pitian, Hind* This plant is an ingredient of the *dasamula* above described, and is thus much used in native medicine. It is considered alterative, tonic and anti-catarhal, but is seldom used alone

CLITOREA TERNATEA, *Linn*

Sans अपराजिता, *Aparájitá, विष्णुकान्ता, Vishnukrántá*

Vern Aparajitá, Beng Aprájit, Hind

THE root of *Clitoria ternatea* is regarded as laxative and diuretic, and is generally used in combination with other medicines of the sort in ascites, fever, etc. The following is an example of a prescription containing *aparájitá* root. Take of the roots of *aparájitá*, *Plodeia decussata* (*sant' hani*), *Baliospermum montanum* (*danti*) and *Indigofera tinctoria* (*nili*), in equal parts, rub them together into an emulsion with water and administer with cow's urine. This preparation is given in ascites and enlargements of the abdominal viscera.¹

MUCUNA PRURIENS, *DC*

Sans आत्मगुप्ता, *A'tmaguptá कपिकच्छ, Kapilachchhu वानरी, Vánari.*

Vern A'lhusi, Beng Kivach, Hind

THE English names Cowage or Cowitch are derived from the Hindi *Kivach*. The plant is indigenous to India and has been used in Hindu medicine from a very ancient period. *Susruta* describes the seeds as a powerful aphrodisiac, and gives the following formula for their use. Take of the seeds of *Mucuna pruriens* and the fruits *Tribulus terrestris* (*gokshura*) equal parts and administer in doses of about a drachm with sugar and tepid milk.² The Bháva-

1 गवाची शङ्खिनी दन्ती नीलिनीकण्ठसयुतम् । सर्वोदरविनाशाय गोमूत्रपातुमाचरेत् ॥ चक्र ।

2 स्वयं गुप्तेचुरकयोर्वीजं चूर्णं सशर्करम् । धारीणं नरः पीत्वा पयसा न चयं व्रजेत् । सुश्रुतः ।

prakāsa recommends the following preparation called *Pānari vati*. Take of the seeds of *Mucuna pruriens* thirty-two tolās, boil them in four seers of cow's milk till the latter becomes thick. The seeds should now be decorticated and pounded, then fried in clarified butter and made into a confection with double their weight of sugar. The mass should then be divided into bills which should be steeped in honey. Dose, about a tolā. This preparation is said to be the best of aphrodisiacs¹.

The root of *Mucuna pruriens* is considered tonic and useful in diseases of the nervous system, such as facial paralysis, hemiplegia etc. It is generally used in combination with other medicines of its class, as for example in the compound decoction called *Māshbulāli*, for which see *Assafoetida*.

BUTEA FRONDOSA, Rorb.

Sans पलाश, *Palāsa* किरक, *Kinsuka* Fern *Dhāl* Hind

DR HOOKER states "that when in full flower the *Dhāl* tree is a gorgeous sight, the masses of flowers resembling sheets of flame, their bright orange red petals contrasting brilliantly against the jet black velvety calyx." These beautiful flowers were used as ear-ornaments by the ancient Hindu women and much admired by the poets. The seeds of *Butea frondosa* are said to be laxative and anthelmintic and are used, both alone and in combination with other medicines, for expelling intestinal worms. Thus the fresh juice of the seeds, or the seeds beaten to a paste are given with honey². Sārangadhara gives the following recipe for worms

1 वानरीवटिका । बीजानि कपिकच्छ्राद्धव मितानि स्वयेच्छनक । प्रखे
भीभवदुग्धे तावत् यावद्भवेत् गाढम् । त्वग्रहितानिचकत्वा सुखं सख्येच्छेत्तानि । पिष्टिका
या लघुवटिका कृत्वा गव्ये पचेदाज्ये । द्विगुणित शर्करापाता वटिका सम्पक्षया लेप्या ॥
वटिका मादिक मध्ये मज्जनयोग्ये विरला ख्याप्या ॥ पचटद्ध मितस्त्रास्तु प्रातः सायञ्च
भक्षयेत् । अनेन शीघ्रदावीयो यस्य स्वात्पतितध्वज । सीऽपि प्राप्नोति सुरते सामर्थ्यमिति
वाजिवत् । नानेन सट्टश किञ्चिद्द्वय वाजिकर परम् । भावप्रकाश ।

2 पलाशबीजखरस पिबेद्वा चौद्रघृतम् । पिबेच्चहिजक वा तक्त्रेण कसिनाशनम् ।

भावप्रकाश ।

Take of the seeds of *Butea frondosa*, root of *Ipomœa Turpethum* (*trivit*), seeds of *Hyoscyamus niger* (*párasika yamánr*), *kamalá* powder, *báberang* seeds and treacle, equal parts, beat them together into a paste with water and administer with butter-milk ¹

The gum of *Butea frondosa*, now used as a substitute for kino, was employed by the ancient Hindus, externally only, as for example in the following. Take of red sandal wood one part, rock salt two parts, chebulic myriobalans three parts, and the gum of *Butea frondosa* four parts, powder and mix. This powder is recommended to be applied to pterygium and opacities on the cornea. ²

The alkaline ashes of this plant are used in the preparation of caustic pastes, and diuretic medicines, along with others of their class

PHASEOLUS ROXBURGHII, W & A. ETC

The following varieties of leguminous pulses are mentioned by Sanskrit writers.

- मुद्ग, *Mudga*. *Phaseolus Mungo*, Linn. Vern *Mug*, B.
 माष, *Másha*. *Phaseolus Roxburghii*, W & A Vern *Urud*, H.
 मुद्गपर्ण, *Mudguparn* *P trilobus*, Art. Vern *Mugánr*, B.
 मकुष्ठ, *Makushtha* *P aconitifolius*, Jacq Vern *Mot*, H
 कुलत्थ, *Kulattha*. *Dolichos uniflorus*, Lamark Vern *Kulthi*, H B
 राजमाष, *Rájumásha* *Vigna sinensis*, Linn Vern *Barbat*, B
 शिम्बि, *Simbr*. A common name for several species of *Dolichos*
 चणक, *Chanaka* *Cicer arietinum*, Linn. Vern *But*, Beng *Chená*, H.
 मसुर, *Masura* *Vicia Lens*, Benth Vern *Masur*, H B.
 सतिष्ठा, *Satílá* *Pisum sativum*, Linn. Vern. *Matar*, H. B

1 विवृत्पलाशबीजानि पारसीकयमानिका । कम्पिष्क विडङ्गश्च गुडश्च सम-
 भागिक । तन्न न कल्क एतेषा पीत क्रिमिगणपह । शार्ङ्गधर ।

2 चन्दन सैन्धव पथ्या प्रलाशतपशीणितम् । क्रमवृद्धमिद चूण शुक्राक्षोदि-
 विलेखनम् ।

अदकी, *A'dhaki Cajanus Indicus*, Sprengel. *Asar*, B Tor, H.

विपुटी *Triputi Lathyrus sativus*, Linn *Khesari*, H B

माषपर्णि *Máshaparni Glycine labialis*, Linn *Vern Másharn*, H. B.

Some of these pulses have several varieties For example seven sorts of *mudga* are mentioned, namely, *krishna* or black, *mahá* or large, *gauia* or pale red, *harita* or green, *puta* or yellow, *sveta* or white and *rakta* or red

Mudga, ordinarily known as *moonq lá dál*, and especially its green variety, is considered most wholesome and suited to sick persons A soup made of this pulse is often the first article of diet prescribed after recovery from acute illness The following varieties are also considered wholesome and suited for use by convalescent persons, namely, *masura*, *chanaka*, *kulattha* and *makushtha* *Vicia Lens* or lentils, which take rank first among the pulses as containing the largest proportion of flesh forming matter, are regarded by the Hindus as highly nutritive, and useful in bowel complaints A poultice made of this pulse is an effectual domestic medicine for checking secretion of milk and reducing distension of the mammary glands. *Cicer arietinum* is perhaps the most favourite pulse with the natives, and is used as an article of diet in a great variety of ways It is taken raw, or cooked in its green as well as ripe state Gram is made into *dál*, is roasted and ground into meal and is prepared in many other ways

The acid liquid exuded from the hairs of the stem and leaves of *Cicer arietinum* is called *chanakámula* in Sanskrit It is collected by spreading a cloth over the plants during the night and rinsing the fluid absorbed by it *Chanakámula* is described as acid, refrigerent, saltish, and useful in dyspepsia, indigestion and costiveness It enters into the composition of some medicines for dyspepsia along with other vegetable acids.

Dolichos uniflorus is used medicinally chiefly as an external application in the shape of poultices and pastes Its soup is said to be useful in gravel and urinary disorders

The *Phaseolus Roxburghii* or *másha* is much used in medicine both internally and externally in paralysis, rheumatism and affections of the nervous system It enters into the composition of

several decoctions used in these diseases The following is an illustration Take of the pulse of *Phaseolus Roxburghii*, root of castor oil plant, of *Mucuna pruriens* (*ātmaguplā*) and *Sida cordifolia* (*balā*), half a tola each, and prepare a decoction in the usual way This decoction is given with the addition of rock salt and assafoetida¹ Several oils for external application in the above mentioned diseases have the pulse of *Phaseolus Roxburghii* for their basis or principal ingredient, as for example the following

Satpa māsha taila ² Take of the pulse of *Phaseolus Roxburghii* eight seers, water sixty-four seers, boil down to sixteen seers, and strain Boil the strained decoction with four seers of sesamum oil, and one of rock salt till the water is evaporated This oil is said to be useful in rheumatism, contracted knee joint, stiff shoulder joint, etc

ABRUS PRECATORIUS, Linn.

Sans गुस्ता, *Gungā*

Vern Kuch, Beng Chumtri, Hind

"THIS plant is remarkable for its small egg shaped seeds, which are of a brilliant scarlet colour with a black scar indicating the place where they were attached to the pods." Sanskrit writers mention two varieties, namely, white and red seeded The properties of both are said to be identical The seeds are described as poisonous, and are used internally in affections of the nervous system and externally in skin diseases, ulcers, affections of the hair, etc The root of the plant is described as emetic and useful in poisoning The seeds constitute the *ṛatti* weight used by Hindu jewellers and druggists Ninety-six *ṛattis* make one tola or rupee

1. मापात्मगुप्तकैरेण वाद्यालक श्रुतं पिवेत् । द्विदुःसंभवसंयुक्तं पचाघानं शिवारणम् ।

चक्रदत्त ।

2 खलपमापतैलम् । तैलं सद्भुचितेऽभ्यङ्गी भाससेन्भवसाधितम् । वाह्यशीर्षगते भस्मं पानशीतारभक्तिकम् । क्षाथोऽत्र मापनिष्पाद्य संभव कल्कमेव च ।

चक्रदत्त ।

*Gunjá bhadra rasa*¹ Take of the seeds of *Abrus precatorius* six parts, mercury three parts, sulphur twelve parts, *um* seeds, *Cannabis sativa* leaves and croton seeds, each one part Rub them together and soak for one day in each of the following fluids, namely, lemon juice, juice of the leaves of *Cannabis sativa*, of datura leaves and of the leaves of *Solanum nigrum* (*kálamaclu*) This medicine is given in doses of about eight grains, with rock salt and assafœtida, in paraplegia The seeds of *Abrus precatorius* reduced to a paste are recommended to be applied locally in sciatica, stiffness of the shoulder joint, paralysis and other nervous diseases²

In white leprosy, a paste composed of *gunjá* seed and plumbago root is applied as a stimulant dressing In alopecia a paste of *gunjá* seed is recommended to be rubbed on the bare scalp³

*Gunjádya tailam*⁴ Take of prepared sesamum oil four seers, juice of the leaves of *Wedelia calendulacea* (*bhringarāja*) sixteen seers, seeds of *Abrus precatorius* reduced to a paste, one seer, and boil them together in the usual way This oil is used as a local application in scurf of the scalp, prurigo and other skin diseases

1 गुञ्जाम्ररस । निष्कं त्र्यंशुद्वसूत निष्कद्वादश गन्धकम् । गुञ्जाबीजञ्च पन्निष्कं निम्बबीजं जघातथा । प्रत्येकं निष्कमानन्तु निष्कं जैपालबीजकं । जयाजम्बर धुतूर-काकमाची द्रवैर्दिनम् । भावयित्वा वटीं कृत्वा दद्याद्गुञ्जाचतुष्टयम् । गुञ्जाम्ररसो नाम हिङ्गु, सैन्धव सयुतः । शमयत्युल्वणं दुःखमुदस्तम्ब सुदारणम् ।

रसेन्द्रसारसंग्रहः ।

2 तथपदेह दद्याच्चपिष्टं गुञ्जां फलीकृतम् । तेनाववाहृजा पीडा विपची रोग्रसीतथा । अत्यापि वातजापीडा प्रशमयतिवेगतः ।

शाङ्गधरः ।

3 गुञ्जाफलाग्निचूर्णञ्च लेपितं श्वेतकुष्ठनुतः ।

शाङ्गधरः ।

गुञ्जाफलेश्विर लिम्पेत् केशभूमिं समन्ततः । हस्तीदन्तमसी कृत्वा मुख्यञ्चैव रसाञ्जनम् । लोभान्धनेन जायन्ते नृणां पाणितलेष्वपि ।

चक्रदत्तः ।

4 गुञ्जादि तैलम् । गुञ्जाफलैः शृतं तैले भङ्गराजरसेन च । कण्डूदारुणं हृत् कुष्ठं कपालव्याधिनाशनम् ।

भावप्रकाशः ।

PONGAMIA GLABRA, Vent

Sans करञ्ज, *Karanja* नक्तमाल, *Nactamāla*

Vern *Darlaranja*, Beng *Karamāl*, Hind

THIS tree appears to be common in, and well known all over India. The seeds are much used as an external application in skin diseases. The expressed oil of the seeds is used in these diseases as well as in rheumatism. A poultice of the leaves is applied to ulcers infested with worms. The seeds of *Pongamia glabra*, *Cassia Tora* (*chakramāda*), and the root of *Aplotaxis auriculata* (*kushtha*), are rubbed into a paste with cow's urine, and applied to eruptive skin diseases.¹

Prithusāra taila ² Take of the expressed oil of the seeds of *Pongamia glabra* one seer, *kāñjika* eight tolās, roots of *Plumbago Zeylanica* (*chatrika*), *Nerium odorum* (*laravira*), *Viter Negundo* (*nargundi*), aconite, and the seeds of *Corchorus olitorius* (*nādika*), eight tolās each, in the form of a paste made with *kāñjika*. Mix them together and warm in the sun. This oil is said to be useful in various sorts of skin diseases, ulcers etc.

Tiktādya ghrita ³ Take of the leaves and fruits of *Pongamia glabra*, root of *Picrorrhiza Kuroa*, (*katuki*), wax, turmeric, liquorice root, leaves of *Trichosanthes dioica* (*patala*), *Aganosma caryophyllata* (*mālari*) and *Azadirachta Indica* (*nim*), equal parts, in all one seer. Beat them into a paste and boil with four seers of clarified butter and sixteen seers of water in the usual manner. This preparation is used as an ointment in unhealthy ulcerations and wounds.

GUILANDINA BONDUCELLA, Linn. The properties of Bonduc nuts called पूनीकरञ्ज, *Putikaranja* in Sanskrit, and *Nātāla-*

1 करञ्जबीजैर्जगज सकुची गोमूत्रपिष्टस्य वर प्रदेह ।

चक्रदत्तः ।

2 शृङ्गीसारतैलम् । चित्रकस्याथनिर्गुण्डा हयनारस्य मूलत । नाडीचवीजाद्विषत' काञ्चिपिष्ट' पल पलम् । करञ्जतैलाष्टपल काञ्चिकस्य पल पुन । मिश्रित सूर्यसन्तप्त तैल कुष्ठवशासजित् ।

चक्रदत्तः ।

3 तिक्ताय घृतम् । तिक्ता सिक्थ निशायटी नक्ताङ्गफलपल्लवै । पटोल मालती निम्बपत्रैर्द्रव्यै' घृत पचेत् ।

चक्रदत्तः ।

ranja in Bengali, are said to resemble those of the seeds of *Pongamia glabra*. Their antiperiodic virtues were not known to Sanskrit writers.

PTEROCARPUS SANTALINUS, Linn

Sans रक्तचन्दन, *Raktachandana*.

Vern *Raktachandan*, Beng *Lālchandan*, Hind

THE *Pterocarpus Santalinus* is indigenous to the Indian Peninsula and is chiefly of importance from its yielding the red dye-wood known as red saunders, large quantities of which are annually exported from India. Sanskrit writers describe several varieties of sandal or *chandana*. Of these *sikhanda* or white, *pitachandana* or yellow, and *raktachandana* or red, sandal wood are best known. The first two varieties are founded on the difference in the shades of the colour of the wood of *Santalum album*. It has been a question however how the wood of *Pterocarpus santalinus*, which is nearly inodorous, came to be called by the name of *raktachandana* in Sanskrit and the vernaculars of India. I am inclined to think that the name is owing to the similarity in the uses to which the Hindus put both these articles. Both sandal wood and red sandal wood are rubbed on a piece of stone with water, and the emulsions are used for painting the body after bathing and in religious services.

Red sandal wood is described as an astringent tonic. It enters into the composition of numerous prescriptions of an astringent character and of cooling external applications for inflammation, headache, etc.,¹ but is seldom used alone. It is also much used as a coloring agent in the preparation of medicated oils.

The *Pterocarpus marsupium* or Indian kino tree is translated into "*pect sāl*," Beng by Roxburgh. The Sanskrit term *Pita-sāla* is however a synonym of *Asana* (*Terminalia tomentosa*). I have not found any notice of the Indian kino tree in Sanskrit works. It was probably unknown to the ancients.

1 तिक्ता पयः, सिता चौद्रं तेषां मधुक चन्दनम् । लेपेन शीथलं दाह रक्तं निर्व्यापयेद्भणान् ।
चक्रदत्तः ।

CASSIA FISTULA, Linn

Sans. आरखध, *A'ragbadha*. सुवर्णक, *Suvarnaka*

Vern. *A'multás*, Hind *Sondháli*, Beng

Cassia fistula is indigenous to India and is an old medicine of the Hindu Materia Medica. "The tree is uncommonly beautiful when in flower, few surpassing it in the elegance of its numerous long pendulous racemes of large bright yellow flowers, intermixed with the young lively green foliage" Hence I believe its Sanskrit name of *Rájatarnu* or the king of trees The pulp of the fruit is used as a mild cathartic The root is also described as laxative, and useful in fever, heart diseases, retained excretions, biliousness, etc

*A'ogbadhádi*¹ The compound decoction which passes by this name is a very commonly used purgative in native practice To prepare it, take of the pulp of *Cassia fistula*, *Picrorhiza Kurroa* (*latuki*), chebulic myrobalans, long pepper root and the tubers of *Cyperus rotundus* (*mustaka*), about sixty-four grains each, water thirty-two tolás, and boil down to eight tolás Half of this quantity, or in strong constitutions the whole of it, is given for a dose The root of *Cassia fistula* enters into the composition of numerous compound prescriptions

CASSIA SOPHORA, Linn Sans कासमर्द, *Kásamarda*. Vern. *Kálkásundá*, Beng *Kásundá*, Hind

CASSIA TORA, Linn Sans चक्रमर्द *Chakramarda* Vern. *Chákundra*, Beng *Chakarund*, Hind

CASSIA ALATA, Linn Sans दद्रुघ्न, *Dadrughna*. Vern. *Dádmardan*, Beng and Hind

THE leaves and seeds of these three plants are used in skin diseases, and enter into the composition of numerous prescriptions for them *Kásamarda* signifies destroyer of cough It is described as expectorant and useful in cough and hoarseness, but it does not appear to be much used in these diseases

1 आरखधादि । आरखध कणामूल सूक्ष्म तिक्ताभयाहत । कायश्मयति क्षिप्र-
ज्वर वातकफोशरम् । शार्ङ्गधर ।

The seeds of *Cassia Sophora*, *Raphanus sativus* (*muluka*) and sulphur, in equal parts, are rubbed into a paste with water and applied to patches of pityriasis and psoriasis¹ The seeds of *Cassia Tora* are steeped in the milky juice of *Euphorbia nerifolia*, and afterwards rubbed into a paste with cow's urine for application to keloid tumours² Equal parts of the seeds of *Cassia Tora* and *Pongamia glabra* (*karanjū*) with a fourth part of the root of *Tinospora cordifolia* (*gulancha*) are rubbed together into a paste and applied in ringworm³ *Dadrughna* or *Dādālamardana* signifies curer of ringworm Its leaves are used in this disease.

BAUHINIA VARIEGATA, Linn

Sans काञ्चनार, *Kānchanāra* कौविदार, *Kovidāra*.

Vern *Kachnār*, *Hind* *Rakta Kānchan*, *Beng*.

Two species of *Bauhinia*, namely purple and white flowered (*Bauhinia variegata* and *acuminata*), are noticed in the *Bhāva-prakāśa* under the names of *Kovidāra* and *Kānchanāra* and the properties of both are said to be identical The bark of *Bauhinia variegata* is described as alterative, tonic, astringent and useful in scrofula, skin diseases and ulcers

Chakradatta recommends the bark of the red variety to be rubbed into an emulsion with rice water and administered, with the addition of ginger, in scrofulous enlargement of the glands of the neck⁴ Sārangadhara gives the following preparation for the same affection

1 कासमर्दकबीजानि मूलकानां तथैव च । गन्धपापाणमिश्राणि सिद्धमानां पर-
मौषधम् । चक्रदत्त ।

2. चक्राह्वयं सुहृदीचौरभावितं मूलमयुतम् । रवितप्त चिकित्सितुं लेपनात् किटिमाण्डम् ।
चक्रदत्त ।

3. चक्रमर्दकबीजानि करञ्जसमाशक्तम् । स्त्रोक सददर्शनमूर्खं दद्रुकुष्ठविनाशनम् ।
चक्रदत्त ।

4. पिष्टा ज्योष्ठांश्चुनापेया. काञ्चनाखलव. सुभा । विद्वभेज्युक्ता गण्डमाक्षपहाः
परा. । चक्रदत्त ।

*Káncchanára guggulu*¹ Take of the bark of *Bauhinia variegata*, eighty tolás, the three myrobalans sixty tolás, ginger, black pepper, long pepper and the bark of *Crataeva religiosa* (*varuna*), eight tolás each, cardamoms, cinnamon, and *tejpatra* leaves, each two tolás, powder them all and rub together with *guggulu*, equal in weight to all the other ingredients Dose, half a tolá to be taken every morning with a decoction of *Sphæranthus mollis* (*mundi*) or of catechu This medicine is said to be useful in scrofulous enlargements of glands, tumours, ulcers, skin diseases, etc

TAMARINDUS INDICA, Linn

Sans तिमिन्दी, *Tintidi* अम्लिका, *Amlaká*

Vern Tentul, Beng Imbi, Hind

THE tamarind tree is met with throughout India, and has been known from a very remote period "From the Hindus it would seem that the fruit became known to the Arabians who called it *Tamare-Hindi* " form which last the word tamarind is derived. Tamarinds form an important ingredient in native cookery The unripe fruit is very acid and possesses a peculiar aroma for which it is much relished when cooked with curry The ripe fruit is regarded as refrigerant, digestive, carminative and laxative, and useful in diseases supposed to be caused by deranged bile, such as burning of the body, costiveness, intoxication from spirituous liquors or *datuna*, etc The shells of the ripe fruit are burnt, and their ashes used in medicine as an alkaline substance, along with other medicines of the sort, as for example in the preparation called *Abhayálavana*, (see Alkaline ashes) The pulp of the ripe fruit, as well as

1 काञ्चनारगुग्गुलु। काञ्चनारत्वचोप्राद्धं पलानां दशकं बुधैः । त्रिफला पट्ट-
पलाप्राद्धा त्रिकटुस्यात्पलत्रयम् । पलैकोवरुण कार्याल्लाल्पकृष्णकन्तया । एकैकं कर्षमात्रं
स्यात्सर्वाण्येकवचूर्णयेत् । यावच्चूर्णमिदं सर्वं तावन्मात्रस्तु गुग्गुलु । सङ्कुट्टासर्वमेकत्र पिण्डं
कृत्वाच धारयेत् । गुटिका शण्डिका कृत्वा पातयार्द्धायथोचितम् । गण्डमाला जयत्यु-
ग्रामपचीमर्षुद्वानिच । ग्रन्थि व्रणानिगुल्माश्च कुष्ठानिच भगन्दरम् । प्रदेशानुपानार्थं
काथोन्मुष्टितिकाभवः । काथ खदिरसारस्य पथ्याकाथीयचोष्णकम् ।

शार्ङ्गधर ।

a poultice of the leaves, is recommended to be applied to inflammatory swellings

*Amlhā pāna*¹ Macerate some tamarind pulp in water, strain, and add black pepper, sugar, cloves, camphor and cardamoms to taste. This preparation is prescribed as an agreeable cooling draught in loss of appetite and disinclination for food. In intoxication from spirituous liquors the following mixture is recommended by Chakradatta. Take of dates, raisins, tamarind pulp, pomegranate seeds, fruits of *Grewia Asiatica* (*parushaka*) and ripe emblic myrobalans, each one tola, pound them together, and make an emulsion with thirty-two tolas of water. Dose, about two ounces²

ACACIA CATECHU, Linn

Sans खदिर, *Khadira* *Vern* Kat, *Hind.* Khaer, *Beng.*

Khadira or catechu is obtained by boiling the wood of *Acacia catechu* in water and inspissating the decoction. The *Bhāvaprakāśa* mentions two varieties of catechu, namely, *khadira* or the ordinary dark brown catechu, and *ladara* or pale catechu. This last is known as *pāpri khaer*, or catechu having a laminated structure. Fluckiger and Hanbury thus describe the preparation of pale catechu in Northern India. "Instead of evaporating the decoction to the condition of an extract, the inspissation is stopped at a certain point and the liquor allowed to cool, "coagulate," and crystallize over twigs and leaves thrown into the pots for the purpose"³ Pale catechu is a porous, opaque, earthy looking substance with a laminated texture, light and easily broken.

The chief use of catechu in India, is as an ingredient of the packet of betle leaf chewed by the natives. For this purpose it is sometimes aromatized in various ways. The packets of betle-

1 अश्लिकापानम् । अश्लिकाया फलपक्वं सहितं वारिणदृढं । शर्करा मरिची-
न्मिश्रं खड्गेन्दु सुवासितम् । अश्लिकाफलं सम्भूतं पानकं वातनाशनम् । पित्तश्लेष्मकरं
किञ्चित् स्रुच्यं वरि वीषकम् ।

भावप्रकाश ।

2. मम खर्जूररुहीका वृक्षाश्वाहीकदाडिमैः । परूपके सामलकैर्युक्ता मय
विकारणम् ।

चक्रदत्त ।

leaf sold in all the Indian bazars under the name of *goldabi lali*, are prepared with catechu dissolved in rose water. Again, catechu is softened with the addition of water, and mixed with powdered spices, such as cardamoms, nutmeg, cloves, etc., the mixture is enclosed within the fragrant floral leaves of *Pandanus odoratissimus* (*ketalu*), and dried. The leaves adhere to the catechu, which is cut into small pieces suitable for use with the betle leaf.

Catechu is described as astringent, cooling, digestive, and useful in hoarseness, diseases of the mouth and gums, cough and skin diseases. In diarrhoea it is sometimes used in combination with other medicines of its class, as for example in a prescription in the *Bhaisajya Ratnavali*, called *Graham lapdla rasa*, which contains catechu along with a large number of other drugs, but it is not regarded as an important medicine for this disease.

In hoarseness, catechu rubbed with oil, is recommended to be kept in the mouth.¹ In diseases of the mouth and gums the following called *Sialpakhadira ratika* is a favourite medicine. To prepare it, take of catechu twelve seers and a half, water sixty-four seers, boil down to eight seers, then add nutmeg, camphor, betle-nuts and *kakkola*, each half a seer in fine powder, and prepare a mass fit for being made into balls or boluses. They are directed to be kept in the mouth, in affections of the teeth, gums, palate and tongue.²

In skin diseases, catechu is much used in a variety of forms both externally and internally. A decoction of catechu is used as a wash for inflamed parts and ulcers.³ Water in which catechu is dissolved is recommended to be used as a drink, wash and bath. The following decoction called *khadráshtaka* is prescribed by several writers for internal use in boils, prurigo, measles and other

1 तैलाक्त खरभेदेवा खदिर धारये मुखे ।

चक्रदत्त ।

2 खरपखदिरवटिका । खदिरस्य तुला सम्यग् जलद्रीणे विपाचयेत् । शेषेऽष्ट भागे तत्रैव प्रतिवाप पदापयेत् । जातीकर्पूर पूगानि कक्षौलक फलानि च । इत्ये पाण्डिका कार्यामुखसौभाग्यवर्द्धिनी । दन्तीठमुखरीगेषु जिह्वाताप्य मयेषु च ।

चक्रदत्त ।

3 खदिरोकपाय व्रणशोधने हित ।

चक्रदत्त ।

skin diseases¹ Take of catechu, the three myrobalans, *nim* bark, leaves of *Trichosanthes dioica* (*patala*), *gulancha* and *Justicia Adhatoda* (*vásaka*), equal parts, and prepare a decoction in the usual way Sārangadhara describes a fermented liquor called *khadrāśhta* for use in skin diseases It is prepared with catechu and the wood of *Pinus Decodara*, and some other ingredients in smaller proportions²

ACACIA ARABICA, Willd. Sans बबूल, *Vabbula* Veir. *Bābul*, Beng Hind The tender leaves beaten into a pulp, are given in diarrhoea as an astringent A decoction of the bark is used as an astringent gargle and wash I have not met with any notice of gum acacia in Sanskrit works

NAT. ORDER COMBRETACEÆ.

TERMINALIA CHEBULA, Retz

Sans हरीतकी, *Haritaki* अभया, *Abhayā* पथ्या, *Pathyā*

Vern Har Hind *Haritaki*, Beng

THE chebulic myrobalan was highly extolled by the ancient Hindus as a powerful alterative and tonic. It has received the names of *Prāṇadā*, or life-giver, *Sudhā* or nectar, *Bhishakprīya* or physician's favourite and so forth So highly esteemed was this plant by the ancient Hindus, that a mythological origin has been attributed to it It is said that when Indra was drinking nectar in heaven, a drop of the fluid fell on the earth and produced the *haritaki* plant Seven varieties of *haritaki* are described by Sanskrit writers, the distinctions being founded upon the shape, colour and marks on the outer covering of the fruits At the present day, however, two varieties only are recognised, namely, the large ripe fruit called *haritaki*, and the unripe dried fruit called *jangi*

1 प्रक्षेपोद्वर्तनं स्नानं पानं भोजनकर्कषि । शीलितं खादिरं वारि सर्व्वतृणदीप-
नाशनम् । चक्रदत्तः ।

2 खदिराष्टकं । खदिरं त्रिफलारिष्टं पटोलामृतं वासकं । काथीऽष्टकाङ्गी जयति
रोमानिकमसूरिका । कुष्ठविषर्षं स्त्रीष्टं कण्डूदीनपि पानतः । चक्रदत्तः ।

haritaki in the vernacular. A good *haritaki* fit for medicinal use should be fresh, smooth, dense, heavy and rounded in shape. Thrown into water it should sink in it. *Haritaki* fruits weighing four tolas and upwards, are also considered fit for use, although they may not possess some of the above-mentioned properties. The seeds are rejected and their coats only are used in medicine. Those fruits which have small seeds and abundant cortex are preferred.

Chebulic myrobalans are described as laxative, stomachic, tonic and alterative. They are used in fevers, cough, asthma, urinary diseases, piles, intestinal worms, chronic diarrhoea, costiveness, flatulence, vomiting, hiccup, heart diseases, enlarged spleen and liver, ascites, skin diseases, etc. In combination with emblic and bellenic myrobalans, and under the name of *triphala* or the three myrobalans, they are extensively used as adjuncts to other medicines in almost all diseases.

Two or three chebulic myrobalans, rubbed into a paste and taken with a little rock salt, act as a mild laxative. The following compound decoction called *Pathyādi kvātha* is also much used as a purgative. Take of chebulic myrobalans, pulp of *Cassia fistula* (*āragbadha*), root of *Pterocarya Kuriōa* (*katuki*), root of *Ipomoea Turpethum* (*trivrit*) and emblic myrobalans, equal parts, in all two tolas, and prepare a decoction in the usual way. Dose, two to four ounces. Bengali practitioners now a days often add senna and rhubarb to the above preparation, but these last were not known to the ancient writers, and are not mentioned in their works¹.

As an alterative tonic for promoting strength, preventing the effects of age and prolonging life, chebulic myrobalan is used in a peculiar way. One fruit is taken every morning with salt in the rainy season, with sugar in autumn, with ginger in the first half of the cold season, with long pepper in the second half, with honey in spring, and with treacle in the two hot months. These adjuncts are supposed to agree best with the humours that are liable to be

1 पथ्यादिकाथ । पथ्यारग्वधतिल्ला विब्रदामलकै श्रुतपेय । पाचनसारक युक्त नवजीर्णजरे सामे ।

deranged in the different seasons This old device for prolonging life is still believed in, and acted upon, by some superstitious elderly native gentlemen¹

Numerous preparations of *haritaki* for special diseases are described in books, such as the *Amrita haritaki* for dyspepsia, *Danti haritaki* for enlargements in the abdomen called *gulma*, *Bhṛigu haritaki* in cough, *Agastī haritaki* in consumption, *Dasa muli haritaki* in anasarca, etc

*Amrita haritaki*² is thus prepared One hundred large sized chebulic myrobalans are boiled in butter-milk, and their seeds are taken out. Four tolās each of long pepper, black pepper, ginger, cinnamon, plumbago root, root of *Piper Chaba* (*chavikā*), the five salts, *ājowan*, and the seeds of *Seseli Indicum*, (*vanayamāni*), *yavalāshāra*, *sarjilāśhāra*, borax, assafoetida and cloves, are reduced to powder, and soaked for three days respectively in a decoction of tamarind and in lemon juice. This mixture is introduced within the seedless myrobalans, which are then exposed to the sun and dried One of these prepared myrobalans is directed to be taken every morning for the relief of various sorts of dyspepsia and indigestion *Danti haritaki* will be described under *Baliospermum montanum* The other preparations of chebulic myrobalans are not much in vogue at present

TERMINALIA BELLERICA, Roxb

Sans विमितकी, *Vibhṛitaki* Vern. *Baherā*, Hind. *Beng*

BELLERIC myrobalans are described as astringent and laxative and useful in cough, hoarseness, eye diseases, etc As a constituent

1 गुडेन मधुनाशुण्डा कण्ठयाल्लवणेन वा । वैद्ये खादन्सदापय्ये जीवेद्वर्षं शतं
मुखी । सिन्धुत्यशर्करा शुष्ठीकणामधुगुडे क्रमात् । वर्षादिपूवभयासेव्या रसायनगुणेष्वपि ।

चक्रदत्त ।

2. चरीतक्या शतं याद्वं तन्नै खिन्नश्च कारयेत् । यवाधीज समुद्धृत्य षड्पण्य
पञ्चपटु । यमानीद्वयमेवच । विचारं हिष्टु दिव्यश्च कर्पद्वयमितं प्रयक् । क्षत्तचूर्णीकृतं
सर्वं चुक्राक्षेनापि भावयेत् । निम्ब्याकखरसेनापि भावयेच्च दिनवयम् । खादयेदभयामेकां
सर्वजीर्णविनाशिनोम् ।

भेषज्यरत्नावली ।

of *triphalā* or the three myrobalans, they are used in almost all diseases. The kernel of the fruits is said to be narcotic and astringent, and is used as an external application to inflamed parts.¹

In hoarseness, belleric myrobalans, rock salt and long pepper, rubbed into a paste with butter-milk, are recommended to be used as a linctus.² Another prescription for sore throat and hoarseness is as follows. Belleric myrobalans are fried in clarified butter; they are then covered with a paste of wheat-flour and slightly roasted on a fire. The cortical portion of the fruits thus prepared is recommended to be kept in the mouth for the relief of sore throat, cough and catarrh.³

TERMINALIA ARJUNA, *Bell.*

Sans. अर्जुन, *Arjuna* ककुभ, *Kukubha*

Vern. *Arjuna*, *Beng.* *Kahu*, *Hind.*

THE bark of this timber tree is considered tonic, astringent and cooling, and is used in heart diseases, contusions, fractures, ulcers, etc. In diseases of the heart it is used in a variety of ways. Thus a decoction of the bark with milk is given as a nourishment. The powdered bark is given with milk, treacle or water.⁴ A *gluta* is prepared with the decoction and paste of the bark for internal use.⁵

1 विभीतफलमज्जस्तु लेपोदाहार्तिनाशन । शार्ङ्गधर ।

2 कलितरुफलं सिन्धु कषाचूर्णं तक्रोण लीढमपहरति । खरभेद गोपयसापीतं चक्रदत्त ।

3 विभीतकफलं किञ्चिदुष्टतेनाभ्यज्य लेपयेत् । गोष्ठमपिष्टैरङ्गैर्विपचित्पुटपाकवत् । ततः पक्व समुद्धृत्य त्वचन्तस्य मुखेचिपेत् । कासश्वास प्रतिश्याय खरभङ्गाञ्जयेत्ततः । शार्ङ्गधर ।

4 अर्जुनस्य त्वचासिद्धं क्षीरं योज्यं हृदामये । सितयापञ्चमूल्यावा वलया मधुकेन वा । घृतेन दुग्धेन गुडाम्भसावा पिवन्तिचूर्णं ककुभ त्वचये । हृद्रोगजीर्णज्वर रक्तपित्तं हृत्वा भवेद्युधिरजीविनस्ते । चक्रदत्त ।

5 अर्जुनघृतम् । पार्थस्य ककुभ खरसेन सिद्धं शस्त्रं घृतं सर्वं हृदामयेषु । चक्रदत्त ।

In fractures and contusions with extensive ecchymosis, powdered *aryuna* bark is recommended to be taken internally with milk¹ A decoction of the bark is used as a wash in ulcers and chancres

NAT ORDER MYRTACEÆ

EUGENIA JAMBOLANA, Lam

Syn. *Syzygium Jambolanum*, W & A.

Sans जम्बू, Jambu Vern Kúlajám, Beng Jámun, Hind

THIS tree, which yields an abundant crop of sub-acid edible fruits during the months of July and August, is common all over the country In some places the fruits attain the size of a pigeon's egg and are of superior quality A vinegar prepared from the juice of the ripe fruit, is an agreeable stomachic and carminative It is also used as a diuretic in scanty or suppressed urine A sort of spirituous liquor called *Jámbara* is described in recent Sanskrit works as prepared by distillation from the juice of the ripe fruits. The bark is astringent, and is used, alone or in combination with other medicines of its class, in the preparation of astringent decoctions, gargles and washes The fresh juice of the bark is given with goat's milk in the diarrhoea of children² The expressed juice of the leaves is used alone or in combination with other astringents in dysentery with bloody discharge, as for example in the following prescription Take of the fresh juice of the leaves of *jambu*, mango and emblic myroblan about a diachm each, and administer with goat's milk and honey³

CARYOPHYLLUS AROMATICUS, Linn Sans लवङ्ग, *La-vanga*. Cloves, as might be expected, are much used in Hindu

1 भग्न पित्तक्षयसार्जुनस्य गोधूमचूर्णं सघृतेनवाथ । चक्रदत्त ।

2 विलिशक्राम्बुमीचाब्द सिद्धमाज पय शिशो । ममांसरक्ता ग्रन्थी पीत दण्डात्
विरावत । तद्वदजाक्षीरसमी जम्बुलशुद्धवीरस । चक्रदत्त ।

3 जम्बुलाम्बुलकोनानु, पक्षवानथ कुष्ठेत् । सगृह्य खरस तेषामजाक्षीरेण
बीजयेत् । त पीवेन्मधुनायुक्त रक्तातिसारनाशनम् । भावप्रकाशः ।

Medicine, as an aromatic adjunct They are regarded as light, cooling, stomachic, digestive and useful in thirst, vomiting, flatulence, colic, etc An infusion of cloves is given to appease thirst.¹ The following pill, called *Chatuhsama vati*, is commonly used in indigestion Take of cloves, ginger, *ajowan* and rock salt, equal parts, and make into eight-grain pills

NAT ORDER LYTHRACEÆ

WOODFORDIA FLORIBUNDA, *Salisb.*

Syn. Grislea tomentosa, Rorb

Sans धातकी, *Dhātakī* अग्निज्वाल, *Agnyjvala*

Pein. Dhārphul, *Beng* Dhār, *Hind*

THE Sanskrit synonyms of this beautiful flowering shrub well describe some of its prominent characters It is called *Tāmrapushpi* or red flowered, on account of its bright red permanent calyx, and *Guchchhapushpi* or having clusters of blossoms, on account of its numerous small flowers, which give it a gaudy appearance From the circumstance of its being common in mountainous tracts, it has got the name of *Párvatī* or hill born

The dried flowers of *Woodfordia floribunda* are regarded as stimulant and astringent and are much used, in combination with other astringent medicines, in bowel complaints and hæmorrhages. Two drachms of the dried flowers are given with curdled milk in dysentery, and with honey in menorrhagia² In the dysentery of children, the following combination is recommended to be given in the form of powder or decoction with the addition of honey Take of the flowers of *Woodfordia floribunda*, bel fruits, bark of *Symplocos racemosa* (*lodhra*), root of *Pavonia odorata* (*bála*), and the fruits of *Pothos officinalis* (*gajapipul*), in equal parts, two tolas in all, and prepare a decoction in the usual way³

1 पिपासायामनुत् क्लेशे लवङ्गस्याम्बु शस्यते । चक्र ।

2 धातक्याद्याचमात्र वा आमलक्यामधुद्रवम् । पाण्डुप्रदर्शान्ताय पिबेत्तण्डुलवारिणा । चक्रदत्त ।

3 धातकीविल्लीध्राणि वालक गजपिप्पली । एभि. कृतं शृतं भीतं शिशुभ्य चोद्द्रव्युतम् । प्रददाकवलेहं वा सर्वातीसारशान्तये । शार्ङ्गधर ।

The powdered flower is sprinkled over ulcers for diminishing their discharge and promoting granulation ¹

NAT. ORDER HAMAMELIDEÆ.

LIQUIDAMBAR ORIENTALE, *Miller Sans सिम्क, Silhala. Vern Sildās, Hind.* Liquid stone is described in Sanskrit works as a product of Turkey. It is considered useful in affections of the throat, copious perspiration and skin diseases, but is chiefly used in perfuming medicinal oils

NAT. ORDER GRANATEÆ.

PUNICA GRANATUM, *Linn.*

Sans दाडिम Dādima Vern A'nāi, Hind.

THE pomegranate is indigenous to North Western India. The best fruits, having sweet juice and very small seeds come from Cabul. The fresh juice of the fruits is much used as an ingredient of cooling and refrigerent mixtures and of some medicines for dyspepsia. The rind of the fruit is used as an astringent in diarrhoea. In the Pharmacographia it is stated that the use of the root-bark as an anthelmintic by the Hindus attracted the notice of Buchanan at Calcutta about the year 1805. This physician pointed out the efficacy of the root-bark which was further shown by Fleming and others. I have not been able to find any notice of pomegranate root-bark in Sanskrit works.

Dādīmāshtaka ² Take of pomegranate rind one seer, bamboomanna two tolās, cardamom, cinnamon, *tejapātra*, and flowers of *Mesua ferrea* (*nāgakēsara*), each four tolās, *ājowan*, coriander, cumin seeds, long pepper root, long pepper, black pepper and ginger, each eight tolās, sugar one seer. Powder the ingredients and mix. Dose, about one diachm in chronic bowel complaints.

1. धातकीचूर्णेलीप्रेर्व्या तथा रोहन्ति ते व्रणा । चक्रदत्तः ।

2 दाडिमाष्टक । कर्षीन्मिहा तुगाचीरो चातुर्जात द्विकार्षिकम् । यमानी धान्यकाजानी ग्रन्थिग्रोष पलाशिकम् । पलानिदाडिमाष्टकौ सितायाम्भेकत. छत. । गुणै. कपित्थाष्टकवच्चर्णोऽथ दाडिमाष्टक. । चक्रदत्त ।

NAT ORDER CUCURBITACEÆ.

BENINCASA CERIFERA, *Savi**Syn. Cucurbita Pepo, Roxb**Sans* कुप्साण्ड, *Kushmānda* *Vern* Kumrá, *Beng* Pethá, *Hind.*

THE large fruit or gourd of *Benincasa cerifera* is eaten by the natives in their curries, and is extensively cultivated all over India. It is considered tonic, nutritive and diuretic, and a specific for hæmoptysis and other hæmorrhages from internal organs. It would appear that the older Sanskrit writers were not acquainted with its peculiar action on the circulatory system by which it rapidly puts a check to hæmorrhage from the lungs. The Rāja Nirghantu, the oldest work on therapeutics, gives a long account of its virtues, but does not allude to its use in phthisis or hæmoptysis. Neither does Susruta mention it in his chapters on the treatment of hæmorrhage and phthisis, though the plant is alluded to by him elsewhere. The more recent compilations, such as Chakradatta Sangraha, Sārangadhara etc. give numerous preparations of the article and detail its uses.

Khanda kushmāndaka,¹ or confection of squash. In preparing this medicine, old ripe gourds are selected. Those not at least a year old, are not approved. They are longitudinally divided into two halves and the pulp scraped out in thin flakes by an iron comb or scratcher. The watery juice that oozes out abundantly during

1 खण्डकुप्साण्डक । कुप्साण्डकात्पलशत सुखिन्न निस्तूलोक्तम् । पचे तप्ते घृत-
प्रस्थे शनैस्त्राप्तमये दृढे । यदा मधुनिभ पाकस्तदाखण्डशत न्यस्येत् । पिप्पली शृङ्ग-
वेराभ्यां द्वे पले जीरकस्य च । तृणैलापवमरिच धान्यकानां पलाह्वकम् । न्यसेच्चूर्णीकृतम्
तत्र द्रव्यामघट्टयेन्मुहुः । तत्पक्वं स्थापयेद्भाण्डे दत्त्वाचौद्र घृतार्द्रकम् । तद्यथाग्निवत्
खादेद्रक्तपित्तोक्षतक्षयी । कासश्वास तप्त श्चर्हिदृष्णाज्वरनिपीडित । वृष्य पुनर्नवकर वलवर्ण-
प्रसाधनम् । उर सन्धान करण वृ हण खरवीधनम् । अश्विभया निम्मित सिद्धं कुप्साण्डक-
रसायनम् । खण्डामलकमानानुसारात्कुप्साण्डकद्रवात् । पादं पाकाय दातव्यं यावान्-
वावरसी भवेत् । अत्रापि मुद्रयापाकी निस्तूल निष्कलीकृतम् ।

this process is preserved, the seeds being rejected. The pulp is boiled in the above mentioned juice, till softened. It is then tied up tightly in a cloth, and the fluid portion allowed to strain through it. The softened and drained pulp is dried in the sun and the watery portion preserved for future use. Fifty tolas of the prepared pulp are fried in sixteen tolas of clarified butter, and again boiled in the juice of the fruit, till reduced to the consistence of honey. To this are added fifty tolas of refined sugar, and the whole is heated over a gentle fire, till the mass assumes such a consistence as to adhere to the ladle. The pot is now removed from the fire, and the following substances, namely, long pepper and ginger, each two tolas, cumin seeds, cardamoms, cinnamon, leaves called *tejapatra*, black pepper and coriander, each half a tola in fine powder, are added to the syrup and stirred briskly with a ladle, till the mass is cool. Eight tolas of honey are now added to the confection which is preserved in a new earthen pot. The dose of this medicine is from one to two tolas, according to the age and strength of the patient. It is useful in hæmoptysis, phthisis, marasmus, cough, asthma, ulceration of the lungs, hoarseness, etc.

*Vásá kushmánda khandá*¹ Take of the root of *Justicia Adhatoda* (*vásaka*), one seer, water eight seers, boil together till reduced to one-fourth and strain. Then take of the pulp of *Benincasa cerifera*, prepared as above described, fifty tolas, fry it in thirty-two tolas of clarified butter, and boil in the decoction of *vásaka* till the whole is reduced to the consistence of honey. Add to it sugar, one hundred tolas, and apply heat till the mass thickens to the proper consistence. Remove from the fire, add the following substances in fine powder, namely, tubers of *Cyperus rotundus*, (*mustaka*), dried emblic myrobalan, bamboo manna, root of *Cleodendron Siphonanthus* (*brahmayastr*), a fragrant substance called

1 वासाखण्डकुप्माण्डक । पञ्चाशच्चपल खिन्नं कुप्माण्डातप्रस्थमाव्यत । ग्राह्य पलशत खण्ड वासाकाथाटके पचेत् । मुस्ताधात्री शुभाभागीं विमुग्धैश्च कार्ष्णिकै । ऐलेय विश्वधन्वाकमरिचैश्च पलाशिकै । पिप्पलीषु डवश्चैव मधुमानी प्रदापयेत् । कास श्याम क्षय हिक्का रक्तपित्त हलीभकम् हृद्रोगमस्तपित्तञ्च प्रीनसञ्च व्यपीहति ।

elabáluka, cinnamon, cardamom, *tejapatra*, each quarter of a tolá, ginger, coriander, and black pepper each one tolá, long pepper, four tolá, stir well till the confection cools and lastly add eight tolá of honey This preparation is used in cough, asthma, phthisis, hæmoptysis, heart disease, and catarrh

In insanity, epilepsy and other nervous diseases, the fresh juice of the squash is given either with sugar or as an adjunct to other medicines for these diseases A *ghrita* for use in these diseases is also prepared as follows

*Kushmándaka ghrita*¹ Take of the juice of *Benincasa cerifera* eighteen seers, clarified butter, one seer, liquorice root beaten into a paste with water, quarter of a seer Boil them together and prepare a *ghrita* in the usual way. Dose, one to two tolá

TRICHOSANTHES DIOICA, Roxb

Sans पटोल, *Patola* Vern. *Palwal*, *Hind*

THE *Trichosanthès dioica* is extensively cultivated as an article of food in Bengal The unripe fruits are much used by the natives as a culinary vegetable and are considered very wholesome and especially suited for the convalescent In fact they constitute one of the most palatable vegetables grown in this country The tender tops are also used as a pot-herb and are regarded as tonic and vermifuge

The leaves, fresh juice of the fruits and the root are all used medicinally The leaves are described as a good, light and agreeable bitter tonic The fresh juice of the unripe fruit is often used as a cooling and laxative adjunct to some alterative medicines such as the preparation called *Rasa sindura*, etc The bulbous root is called *Ramyaka* in Sanskrit and is classified amongst purgatives by Susruta

In bilious fever, a decoction of *patola* leaves and coriander, in equal parts, is given as a febrifuge and laxative² The leaves

1 कुष्माण्डकघृतम् । कुष्माण्डकरसे सर्पिरष्टादशगुणे पचेत् । यद्यग्राहकलृक् तत्पानमपकारविनाशनम् । चक्रदत्त ।

2 दीपन कफविच्छेदि वातपित्ताशुलीमनम् ज्वरघ्नं पाचनं भेदि श्लेष्म धान्यपटोलयो । चक्रदत्त ।

enter into the composition of several compound decoctions for fever. The following called *Patolády kvátha* is an illustration. Take of *patola* leaves, red sandal wood, root of *Saeseviera Zeylanica* (*muriá*), *Picrorhiza Kurroa* (*katulá*), *Stephania bernardifolia* (*páthá*) and *guluncha*, each one drachm, water half a seer, boil together till reduced to one-fourth.¹

Patola enters into the composition of several compound decoctions for boils and other skin diseases for which it is considered a very efficacious remedy. The following is an illustration. Take of *patola* leaves, *guluncha*, *mustaka*, *chretá*, *nim* bark, catechu, root-bark of *Justicia Adhatoda* (*vásaka*), and *Oldenlandia herbacea* (*parpata*), equal parts, in all two tolás, and prepare a decoction in the usual way. This decoction is regarded as a valuable alterative, tonic and febrifuge.²

The root is used in combination with *Ipomœa Turpethum* and other adjuncts as a drastic purgative in jaundice, anasarca and ascites. The following called *Patolády churna* is an illustration. Take of the root of *Trichosanthes dioeca* (*patola*), turmeric, *báber ang* seeds, *kamalá* powder, and the three myrobalans, two tolás each, cinnamon, and the root of the indigo plant, three tolás each, *Ipomœa Turpethum* (*turvit*) four tolás, powder the ingredients finely and mix. Dose, about one drachm with cow's urine. After the use of this medicine, light food only (such as gruel) should be taken.³

1. पटोल चन्दन मूर्वा तिक्ता पाठान्ता गण. । पित्तश्लेष्मासिद्धिं ज्वरकरू-
विषाग्रह ।

चक्रदत्त ।

2. पटोलान्तभूनिम्ब वासकारिष्टपर्पटे । खदिराब्दयुते कायो विस्फोटार्तिज्वरा-
ग्रह ।

चक्रदत्त ।

3. पटोलाद्या चूर्णम् । पटोलमूल रजनी विडङ्गं त्रिफलातृचम् । कम्पिष्ठक
नीलिनीच विद्यताश्चेति चूर्णयेत् । पडाद्यान् कार्ष्णिकानन्तःशक्तीं यद्विचतुर्गुणान् । कृता-
चूर्णं ततोमुष्टि गवांमूत्रेणान्निवेत् । विरिक्तोजाङ्गलरसैर्भुञ्जीतगृध्रमोदनम् । मण्ड पेयाच्च
पीत्वाच सव्योप षडर पय । शृत पिबेत्तु तच्चूर्णे पिबेदेव पुनः पुनः । इन्तिसब्बोदरान्ये-
तच्चूर्णे जातोदकान्यपि । कामलां पाण्डु रोगश्च श्रयष्टुष्ठापकर्षति ।

चक्रदत्तः ।

The fresh juice of the leaves of *Trichosanthes dioica* is recommended by several writers, to be applied to the bald patches of alopecia¹

CUCUMIS MELO, Linn

Syn Cucumis utihissimus, Roxb

Sans कर्कटी, Karlati Vern Kánkur, Beng Kákr, Hind

THE seeds of this useful species of *Cucumis* are described as cooling, edible, nutritive and diuretic, and are used in painful micturition and suppression of urine. Two diachms of the seeds rubbed into a pulp with water, are given alone or in combination with salt and *lángula*²

The seeds of *Cucumis sativus*, (*Sans अण्ड, Trapusha Vern, Khná, Hind*) and of *Benincasa cerifera* (*Sans Kushmánda*) are also used as diuretics like those of *Cucumis utihissimus*³

COCCINIA INDICA, *W & A Syn Momordica monodelpha, Roxb Sans दिम्ब, Vumba, Vern Telákuchá, Beng* The expressed juice of the thick tap-root of this plant is used by the leading native Kavirájas of Calcutta, as an adjunct to the metallic preparations prescribed by them in diabetes I have not found this use of the plant noticed in any written work, but I know several patients who have taken the juice of the root along with *Vangesvara* or *Somanátha rasa* and who were benefitted by the use of these remedies. I am inclined to think that the juice of the root of this plant probably acts beneficially in some way It is very desirable that its therapeutic action should be tested The expressed juice is directed to be taken in doses of one tolá along with a pill, every morning

1 रससिक्तपटोलस्य पत्राणां तद्विलेपनात् । इन्द्रजुग्मापदीलेपीमधुनाहृत्तीरस ।

भावप्रकाश ।

2 कल्कमेवार्धवोजानामक्षमात्रं ससैन्धवम् । धान्यान्धुक्त पील्वैवभूवावातादिमुच्यते ।

चक्रादत्त ।

3 कुशाण्डस्य तुबीजानि बीजानि त्रयस्य च । वस्त्रौसन्धारयेत् तेन प्रशान्तिन्मूत्रनिग्रहः ।

भावप्रकाश ।

CITRULLUS COLOCYNTHIS, *Schrad**Syn Cucumis Colocynthus, Linn**Sans इन्द्रवायणी, Indravāṇi Vern Indráyan. Hind*

INDIAN colocynth is common on the lower slopes of the Western Himalaya and also on the plains of the drier parts of India. It is procurable in the bazars of the North-West Provinces under the name of *indrāyan*. The pulp of the fruit is described as bitter, acrid, cathartic, and useful in biliousness, constipation, fever and worms. The root of the plant is considered cathartic and useful in jaundice, ascites, enlargements of the abdominal viscera, urinary diseases, rheumatism, etc.

*Jvaraghn gutiká*¹ Take of mercury one part, sulphur, colocynth pulp, cardamoms, long pepper, chebulic myrobalan, and pellitory root, each four parts. Rub these ingredients with the juice of *indravāṇi* root and make into pills weighing about twenty grains each. These pills are administered with the fresh juice of *gulanča* in recent fever. They move the bowels and reduce the fever.

An oil prepared from the seeds of Indian colocynth, is used for blackening grey hairs. A poultice of the root is said to be useful in inflammation of the breasts².

NAT. ORDER UMBELLIFERÆ.

The following aromatic fruits belonging to this natural order, are noticed by Sanskrit writers and are used in medicine or as condiments by the natives.

यमानि, *Yamāni Ptychotis A'jowan*,* *DC. Vern A'jowan Hind*
वनयमानि, *Vanayamāni, Seseli Indicum, W & A Vern Banjoān, B*

1 ज्वरघ्नीगुटिका । भागैक स्याद्रसाक्षुद्धादैलीय, पिप्पलीशिव । अकारकरभोग्ग
कटुतैलेनशीर्षितः । फलानिचेन्द्रवायणायतुर्भागमिताश्रमी । एकवर्गयेषूषमिन्द्रवायणि-
कारसै । मासोन्मितावटीहृत्वा दद्यात्सद्यज्वरेभिषक् । क्षिप्रारसानुपानिनज्वरघ्नीगुटिका-
सता ।

शार्ङ्गधर ।

2 इन्द्रवायणिकाबीजतैलेनाम्यङ्गमाचरेत् । प्रत्यहन्तेन कालाग्निसन्निभाकुतुला-
असृग् ।

शार्ङ्गधर ।

* Now included in the genus *Carum* by Hooker and Benthham.

अजमोदा, *Ajamodá Carum Roxburghianum*, Benth Vern *A'jmad*, Hind *Rándhun*, Beng

जीरक, *Jiraka Cuminum Cyminum*, Linn Vern *Jirá*, Beng.

सुषुति, *Sushuti Carum Carui*, Linn Vern *Shújád*, Hind

मधुरिका, *Madhuriká Foeniculum vulgare*, Gaertn *Mauri*, Beng. *Sonf*, Hind

मिर्चिया *Misreyá Anethum Sowa*,* Roxb Vern *Sulphá*, B *Sowá*, H.

धन्याक, *Dhanyáka Coriandrum sativum*, Linn Vern *Dhaná* H

PTYCHOTIS AJOWAN The seeds of *Ptychotis Ajowan* have an aromatic smell and warm pungent taste, They are used for culinary purposes, as spices along with betel nuts and *pan* leaves, and as a carminative medicine A tea spoonful of *ájowan* with a little rock salt, is a common domestic remedy for indigestion from irregular diet The following compound powder is used in cases of colic or pain in the bowels Take of *ájowan*, rock salt, *sonchal* salt, *yavalshára*, assafoedita, and chebulic myrobalan, equal parts, powder the ingredients and mix Dose, grains ten to twenty, to be taken with wine¹ *A'jowan*, taken daily with treacle, is said to cure urticaria within a week² *Ajowan*, as well as the seeds of *Seseli Indicum* (*vanajamán*), are much used as aromatic adjuncts in compound prescriptions

CARUM ROXBURGHIANUM The seeds of *Carum Roxburghianum* (*ajamodá*) are an essential ingredient of native cookery, They are said to be useful in hiccup, vomiting and pain in the region of the bladder They enter into the composition of several carminative and stimulant preparations, such as the *Ajamodádi churna* (see *Argyria speciosa*), etc

CUMINUM CYMINUM Cumin seeds form an ingredient of some curry powders and pickles used by the natives They are regarded as stomachic, carminative, astringent and useful

1 यमानी हिङ्गु सिन्धू चार सौवर्चलाभयाः । सुरामण्डेन पातव्या गुल्मशुल निवारणा । चक्रदत्त ।

2 सगुडं दीप्यकं यस्तु खादेत् पथ्यान्नमुद्धनर । तस्य नश्यति सप्ताहादुदरं सर्व- देहज । चक्रदत्त ।

* *Anethum* is reduced by Drs. Hooker and Bentham to *Peucedanum*.

in dyspepsia, diarrhoea, etc. A confection of cumin seeds is prepared as follows

Jualādi modaka Take of the three myrobalans, tubers of *Cyperus rotundus* (*mustala*), watery extract of *gulanha*, prepared tale, flowers of *Mesua ferrea* (*nāqukesara*), leaves called *tejapatra*, cinnamon, cardamoms, cloves, coriander, ginger, long pepper, *Ocimum sanctum* (*parpati*), root of *Andropogon muricatum* (*usira*), *Pavonia odorata* (*bālā*), and *Plumbago Zeylanica* (*chitraka*), each one part, cumin seed, nineteen parts or equal in weight to all the other ingredients, powder them all and mix. Add two parts of sugar to one of the powder and make into a confection with honey and clarified butter. Dose, one drachm. This medicine is prescribed in chronic diarrhoea and dyspepsia with loss of appetite.

Jualādyā taila ¹ Take of powdered cumin seeds, eight tolās, minium or red lead, four tolās, prepared mustard oil three seers, water twelve seers, boil them together in the usual way for the preparation of medicinal oils. This oil is used in eczema.

A poultice made of cumin seeds, with the addition of honey, salt and clarified butter, is recommended to be applied to scorpion bites ²

FENICULUM VULGARE Fennel seeds are largely used as a condiment. In medicine they are chiefly used as an aromatic adjunct to other articles. Distilled fennel water is prepared and sold in India, under the name of *A'ruk bādian*, and is used as a domestic carminative.

CARUM CARUI The fruits called *shūṭ jāṭ* in the vernacular, do not appear to differ from European caraway. The plant grows wild largely in the "high alpine region of Lahul in the Western Himalaya," but is rare in the plains. The fruits contain a volatile oil and are used as a carminative like cumin seeds.

1 जीरकाद्यं तैलम् । जीरकस्य पलं पिष्टं सिन्दुराद्धपलं तथा । कटुतैलं पचे-
दाभ्यां सर्वपांमाह्वरं परम् ।

भावप्रकाशः ।

2 जीरकस्य द्यतः कल्की घृतसैन्धवं संयुतः । सुखीणां मधुनालेपो वृश्चिकस्य विष-
हरेत् ।

भावप्रकाशः ।

CORIANDRUM SATIVUM. Coriander is largely used by the natives as a condiment and along with betel nuts and *pán* leaves. It is described as carminative, refrigerent, diuretic, tonic and aphrodisiac. A cold infusion of coriander is given with sugar for the relief of internal heat and thirst ¹. A decoction of coriander and ginger is given in dyspepsia and indigestion. Coriander enters into the composition of numerous cooling and carminative medicines. The fresh leaves of the plant are pungent and aromatic. They are used for preparing a sauce or *chátna*, in the same way as the leaves of spearmint (*pudíná*) ².

FERULA ASSAFOETIDA, Linn

Sans हिङ्ग, Hing, Hing, Beng Hind

SANSKRIT writers describe assafoetida as an exudation from the root of the assafoetida plant which is indigenous to Persia, Khorasan and Multan ^{*}. Assafoetida is regarded as a stimulant and carminative and is much used in dyspepsia, flatulence, colic, and diseases of the nervous system. It is fried before being used internally. Raw or unfried assafoetida is said to cause vomiting.

Hingvashtaka churna ³. Take of fried assafoetida, ginger, long pepper, black pepper, *ájowan*, cumin seeds, nigella seeds and rock salt, equal parts, reduce them to powder and mix. Dose, ten to twenty grains, to be taken with the first morsel of rice and clarified butter taken at breakfast. Thus administered, it is said to increase the appetite and digestive powers and to cure flatulence. Some writers recommend the above powder to be made into pills with lemon juice.

1 प्रातः सशर्करं पेयोहिमोदधन्याकसम्भव । अन्तर्द्वाहं तथादृष्ट्या जयेच्छीतोविशोधन ।

भावप्रकाश ।

2 धान्यनागरं सिद्धन्तुतीयं दद्याद्विचक्षण । अमाजीर्णं क्षीपनं प्रशमनं वक्षिशोधनम् ।

चक्रदत्त ।

3 हिङ्गवष्टकं चूर्णम् । त्रिकटुकं मज्जीमांशं चैव जीरकं च समधरणं धृतानामष्ट भेदिङ्गभाग । प्रथमं कवडभुक्तं सर्पिषा चूर्णमेतज्जनयति जठराग्निं वातरीगाश्च हन्यात् ।

भैषज्यरत्नावली ।

In the flatulence of infants a powder composed of assafœtida, rock salt, cardamoms, ginger, and the root of *Clerodendron Siphonanthus* (*bhāṅgi*), in equal parts, is prescribed by several writers¹ In flatulent colic with costiveness, a suppository made of assafœtida, rock salt and honey, and smeared over with clarified butter, is introduced into the rectum²

In hemiplegia, stiff-neck, facial palsy, sciatica and other diseases of the nervous system, fried assafœtida is given along with a compound decoction called *Māshubalādi*, (see *Phaseolus Roxburghii*) A bit of warm assafœtida, placed in the cavity of a carious tooth, is said to relieve pain³

HYDROCOTYLE ASIATICA, *Linn Sans.* मण्डुकपर्पि, *Man-dukaparni Vern Thalkun, Beng Brāhmamandukī, Hind* The properties of this plant are said to resemble those of *Brāhmī* (*Herpestes Monniera*), both being regarded as alterative, tonic, and useful in diseases of the skin, nervous system and blood. The fresh juice of the leaves is given with milk and liquorice powder, as an alterative tonic.⁴

NAT. ORDER RUBIACEÆ. OLDENLANDIA HERBACEA, DC.

Syn Oldenlandia biflora, Roxb

Sans पयँट, Paipata Vern. Khetpāprā Beng.

THE *Oldenlandia herbacea* is a "small, weak, straggling delicate plant, appearing in the rainy season" in fields and low ground

1. घृतेन सिन्धु विश्वं ला हिङ्गु भागीरजीलिहन् । आनाह वातिक शूल जयेत्तोयेन वा श्रियः । चक्रदत्त ।

2. हिङ्गुमाचिक सिन्धूलैः पक्तावति सुनिर्मिताम् । घृताभाक्ता गुदेदद्यादुदावर्त्त विनाशिनीम् । चक्रदत्त ।

3. हिङ्गुसोषणन् मतिमान् क्रिमिदन्तेषु दापयेत् । चक्रदत्त ।

4. मण्डुकपर्प्याः खरसः प्रयोज्यः क्षीरेण यष्टीमधुकस्य चूर्णम् । रसो गुडूच्यास्तु समूलपुष्पा कल्कः प्रयोज्यः खलुसङ्गपुष्पाः । आयुः प्रदान्यामयनाशनानि मेध्या विशिषेणतु शङ्खपुष्पो । चक्रदत्त ।

on the banks of water courses The entire plant is used in medicine, and is regarded as a valuable bitter tonic and febrifuge It enters into the composition of numerous prescriptions for fever, diarrhoea, skin diseases, etc A simple decoction of the plant is used in bilious fever, with irritability of the stomach or delirium¹ *Parpata* enters into the composition of numerous febrifuge and tonic decoctions The following is an example

*Panchabhadra*² Take of *parpata*, tubers of *Cyperus rotundus* (*mustaka*), *gulantha*, *churita* and ginger, equal parts, in all two tolas, and prepare a decoction in the usual way This preparation is much used in fever supposed to be caused by deranged air and bile, that is, remittent fever with gastric irritability, nervousness, etc

RANDIA DUMETORUM, Linn

Sans मदन, *Madana Vern Mayin, Hind*

THE *Randia dumetorum* is a small thorny tree common in waste places The fruit when ripe, looks like a small apple, and has a peculiar sweetish, sickly smell It is described by Sanskrit writers, as the best or safest of emetics In fact the ancient Hindus depended chiefly upon this drug for causing emesis One ripe fruit is generally administered for this purpose It is also used in combination with other medicines, as for example in the following prescription

*Pancha kashāya*³ Take of *Justicia Adhatoda* (*vāsaka*), *Acorus Calamus* (*vacha*), *nim* bark, leaves of *Trichosanthes dioica* (*patola*), and bark of *Aglata Roxburghiana* (*priyangu*), equal parts, half

¹ एक पर्पटकः श्रेष्ठः पित्तज्वरविनाशनः । किं पुनर्यदि युज्येत चन्दनीशीरषालकैः ॥

दर्पण ।

² पर्पटाब्दान्ताविश्वकिरातैः साधितं जलम् । पञ्चभद्रमिदं ज्ञेयं घातपित्तज्वरापहम् ॥

शार्ङ्गधर ।

³ पञ्चकाषायः । आटरूष वचा निम्ब पटोल फलिनीलचम् । काषयित्वा पिवेत्तोयवान्तिक्तमदनान्वितम् ॥ काष्यद्रव्यस्य कुडव अपयित्वा जलाढके । चतुर्भागावशिष्टं वसनेष्ववचारयेत् ॥

चक्रदत्तः ।

a seer in all, water eight seers, boil them together till reduced to one fourth This decoction is given with the addition of the pulp of *Randia dumetorum* for causing emesis

RUBIA CORDIFOLIA, Linn.

Syn *Rubia Marjista*, Roxb

Sans मञ्जिष्ठा, *Manjishthā*, Vern *Marjūt*, Beng *Hind*

Indian madder, well known as a red dye, is used in medicine chiefly as a colouring agent All medicated oils are first prepared for use by being boiled with madder It is regarded as astringent and useful in external inflammations, ulcers and skin diseases Madder and liquorice root, rubbed into a paste with *Kanjika*, is applied over fractures, to reduce inflammation and swelling Madder rubbed with honey, is recommended by several writers to be applied to brown spots on the face (*pityriasis versicolor*)¹

Manjishthādya ghrita,² is prepared with clarified butter and a paste composed of equal parts of madder, red sandal wood, and the root of *Sansevieria Zeylanica* (*murvā*), and applied to ulcers from burns

PÆDERIA FÆTIDA, Linn.

Sans प्रसारणी, *Prasāraṇī*

Vern *Gandhabhāduli*, Beng *Gandhólī*, Hind

THE *Pæderia fatida* is a long climbing plant, twining up and over trees All parts of the plant give off a most offensive odour when bruised The leaves, boiled and made into soup, are considered wholesome and suitable for the sick and convalescent The entire plant including stem, leaves and root, is much used both internally and externally in rheumatic affections for which it is regarded as a specific

Prasāraṇī leha, or electuary of *Pæderia fatida* Take of the leaves, root and stem of *Pæderia fatida*, two seers, water thirty two

¹ अलिपनार्थं मञ्जिष्ठा मधुक चाम्पेपितम् ॥

चक्रदत्त ।

² मञ्जिष्ठाद्य घृतम् । मञ्जिष्ठा चन्दन सूर्वा पिष्टा सर्पिर्दिपाचयेत् । सर्वेषा-
मग्निदग्धानामेतद्वीपणमिष्यते ॥

चक्रदत्त ।

seers, boil till reduced to one-fourth To the strained decoction add, two seers of treacle, and again boil till reduced to the consistence of a thick syrup Lastly add powdered ginger, long pepper, black pepper, plumbago root and the root of *Piper Chaba* (*chavika*), equal parts, in all half a seer Dose, about one tolá in acute rheumatism ¹

Several oils or liniments for external application are prepared with this plant The following, called *Kubja prasárami taila*,² is largely used by native physicians Take of the entire plant of *Paderia fetida* eight hundred tolas, boil in sixty-four seers of water till reduced to sixteen seers, and strain To the strained decoction, add sesamum oil, sixteen seers, milk, thirty-two seers, whey and fermented paddy water (*kanyika*), each sixteen seers, and the following substances, namely, root of *Paderia fetida*, plumbago root, long pepper root, liquorice, rock salt, *Acorus Calamus* root, dill seeds, bark of *Cedrus Deodara*, root of *Vanda Roxburghii* (*rasná*), *Seindapsus officinalis* (*gajapippali*), *jatámánsi* root and marking nuts, each two tolás in the form of a paste First boil the oil with the decoction of *Paderia fetida* till the water is nearly evaporated, then boil the oil successively with the addition of milk, whey and *kanyika*, adding the aromatic paste during the last process of boiling This oil is used externally in rheumatism with contraction and stiffness of the joints After the application of the oil, the affected parts should be fomented with dry heat

¹ प्रसारणीलिङ्ग । प्रसारण्यादके काये प्रस्थी गुडरसी मतः । पक्व पक्षीषणरजो यश्च स्यादामवातहा ॥ भावप्रकाशः ।

² कुब्जप्रसारणीतैलम् । प्रसारणीशत क्षुण्ण पचेत्तीयार्धेण शुभे । पादशिष्टे सम तैलं दधि दद्यात् सकाञ्जिकम् ॥ द्विगुणञ्च पयो दत्त्वा कृत्स्नान् द्विपलिकास्तथा । चित्तक पिप्पलीमूलं मधुक सैन्धव वचाम् । शतपुष्पा देवदारु राक्षा वारणपिप्पलीम् । प्रसारण्याञ्च मूलानि भासी भल्लातकानि च । पचेन्सृष्टग्निना तैलं वातश्लेष्मानयान् जयेत् ॥ अश्रिति नरनारोष्ठान् वातरोगानपोहति । कुब्ज क्षिप्तिपद्भुत्व गृध्रसौख्यकार्दितम् । हनुवृष्टिशिरोयौवासम् वापि निर्यच्छति ॥ चक्रदत्तः ।

NAT ORDER VALERIANACEÆ.

NARDOSTACHYS JATAMANSI, D C

Syn Valeriana Jatamansi, Jones

Sans जटामांसि, Jāṭāmāṁsi Vern Jāṭāmāṁsi, Beng Bāluchā, Hind

THE *Nardostachys Jatamansi* is a native of the mountains of Northern India and has been used in Hindu medicine from a very ancient period. The fragrant root is considered a nervine tonic, and is much used as an aromatic adjunct in the preparation of medicinal oils and *ghritas*. It does not appear however to have been used internally except as an ingredient of complex prescriptions. In the Pharmacopœia of India it is stated that *Jatamansi* enters into the composition of a nostrum highly recommended in the treatment of epilepsy by Susruta. I do not find in Susruta's work any prescription for epilepsy, containing *jatamansi*, except the following, in which however it can hardly be said to be an active ingredient. Take of the pulse of *Phaseolus Roxburghii* (*kulattha*), barley, jujube fruit, seeds of *Crotolaria juncea* (*sana*), bdellium, *jatamansi* root, the ten drugs collectively called *dasamula* (see *Desmodium gangeticum*), and chebulic myrobalan, equal parts, and prepare a decoction in the usual way. This decoction is recommended to be administered with the addition of clarified butter and goat's urine ¹

NAT ORDER COMPOSITÆ.

SAUSSUREA AURICULATA, Bth et Hf

Syn Aplotaxis auriculata, DC

Sans कुष्ठ, Kushiṭha Vern Kur, Pachak Hind Beng

THE *Aplotaxis auriculata* is a native of the mountains around Cashmere, and has been used in Hindu medicine from an early age. Its root is described as aromatic, stimulant and useful in cough, asthma, fever, dyspepsia and skin diseases. It enters also into the composition of some pastiles for fumigation.

¹ कुलत्थयवकीलानि शण्डीज पलङ्कषाम् । जटिला पञ्चमूल्यौ द्वे पथा
चोत्काथ्य यवतः । वसामूत्रयुत सर्पिः पिवेत्तत्वाति के हितम् ॥ संयुत ।

Agnimukha ckurna ¹ Take of assafoetida, one part *Acorus Calamus* (*vacha*) two parts, long pepper, three parts, ginger, four parts, *ajowan* five parts, chebulic myrobalan, six parts, plumbago root, seven parts, and the root of *Aplotaxis auriculata*, eight parts Powder the ingredients, mix and pass the powder through a cloth Dose, twenty to forty grains with whey or wine in dyspepsia with loss of appetite

A liniment composed of the root of *Aplotaxis auriculata*, *kányika* and castor oil is recommended by several writers to be applied to the forehead in cephalalgia ² The fried root, mixed with mustard oil, is applied to the scalp in porrigo Equal parts of the powdered root and of rock salt, mixed with mustard oil and fermented paddy-water (*kanyika*), are rubbed on joints affected with chronic disease ³

WEDELIA CALENDULACEA, Less

Syn Verbesina calendulacea, Roxb

Sans भृङ्गराज, *Bhringarāja* केशराज, *Kesarāja*

Vern Kesarāja, Beng Bhānrā, Hind

THERE is some confusion between the Sanskrit and vernacular names of *Wedelia calendulacea*, and *Eclipta prostrata* Both these plants are called *kesarāj* or *kesuriā* in Bengali, and the two Sanskrit names of *bhringarāja* and *kesaraja* are used as synonyms The Hindustani term *bhangra*, derived from the Sanskrit *bhringarāja* is however generally applied to *Wedelia calendulacea*, and this is the plant used in medicine at present The leaves, which have a slight camphoraceous taste, are considered tonic, alterative,

¹ अग्निसुख चूर्णम् । हिङ्गुभागी भवेद्वैकी वचा च द्विगुणा भवेत् । पिप्पली त्रिगुणा चैव शङ्खवेर चतुर्गुणम् ॥ यमानिका पञ्चगुणा षड्गुणा च हरीतकी । चित्तक सप्तगुणित कुष्ठञ्चाष्टगुण भवेत् ॥ एतद्वातहर चूर्णं पीतमात्र प्रसन्नया । चूर्णमग्निसुख नाम न क्वचित् प्रतिहन्यते ॥ चक्रदत्त ।

² कुष्ठमेरुडतैलेन लेपात् काञ्चिकपेषितम् । शिरोऽर्चि वातजा हन्यात् पुष्प वा सचुकुन्दजम् ॥ शार्ङ्गधर ।

³ कुष्ठसैन्धवयो कसकशुकृतैलसमन्वितः । सुखीणी मर्दने योज्य खल्लौ-श्लनिवारण ॥ भावप्रकाशः ।

and useful in cough, cephalalgia, skin diseases and alopecia. The juice of the leaves is much used as a snuff in cephalalgia, and in soaking various sorts of powders for the preparation of pills.¹ "In tattooing the natives after puncturing the skin, rub the juicy green leaves of *Eclipta prostrata* over the part, which gives the desired indelible colour, namely a deep bluish black." The leaves of both these plants are used in various ways for the purpose of dyeing grey hair and for promoting the growth of hair.

*Jatiphalaadya churna*² Take of nutmeg, *babering* seeds, plum-bago root, flowers of *Taberna montana coronaria* (*tagara*), sesamum seeds, leaves of *Pinus Webbiana* (*talisa*), red sandal wood, ginger, cloves, cummin seeds, camphor, chebulic and emblic myrobalans, black pepper, long pepper, bamboo manna, cinnamon, cardamom, *tejapatra*, and the flowers of *Mesua ferrea* (*nagakesara*), each two tolas, powdered leaves of *Wedelia calendulacea*, fifty six tolas, sugar, in quantity equal to all the above ingredients. Powder and mix. Dose, about a drachm. This preparation is said to be useful in phthisis, cough and catarrh.

*Shadbindu taila*³ Take of sesamum oil, four seers, goat's milk four seers, juice of *bhringaraja* leaves, sixteen seers and prepare an oil with a paste composed of the following substances, namely, root of castor oil plant, and of *Taberna montana coronaria* (*tagara*), dill seeds, *Calogyne ovalis* (*jivanti*), *Vanda Roxburghii* (*rasna*), rock salt, *Wedelia calendulacea* (*bhringaraja*), *babering* seeds

¹ भङ्गराजरसं च्छागीचीरतुष्योऽर्कतापितः । सूत्र्यावर्त्तं निहन्त्याऽऽ नम्येनेव प्रयोगराट् ॥ भावप्रकाशः ।

² जातीफलाद्य चूर्णम् । जातीफलं विडङ्गानि चित्तकं तगरं तिला । तालीसं चन्दनं शङ्खी लवङ्गमुपकञ्चिका । कर्पूरश्चाभया धात्री सरिचः पिप्पली तुगा । एषा लवचसमा भागाश्चातुर्जातकसयुता । पलानि सप्त भङ्गायां सिता सर्वसमा मता । चूर्णमेतत् त्रयं कासं श्वासञ्च ग्रहणोगदम् । शरीरकं प्रतिश्यायं तथाचानलमन्दताम् । एतान् रोगान् निहन्त्येव हृत्तमिन्द्राशनिर्यथा ॥ भावप्रकाशः ।

³ षड्विन्दुतैलम् । एरण्डमूलं तगरं शताह्वा जीवन्ति रास्ना सह सैन्धवश्च । भङ्गं विडङ्गं मधुयष्टिका च विश्वोपधं कृष्णतिलश्च तैलम् । आजं पयस्कैलविमि-

liquorice root, and ginger, in all one seer Six drops of this oil, drawn in through the nostrils, are said to relieve headache and other affections of the head

*Bhringarāja taila*¹ Take of sesamum oil four seers, juice of *bhringarāja* leaves, sixteen seers, iron rust, the three myrobalans and the root of *Ichnocarpus frutescens* (*syāmalatā*), reduced to a paste, in all one seer, and prepare an oil in the usual way This oil is said to remove scurf from the head, turn grey hairs black, and cure alopecia

The fresh juice of the leaves of *Eclipta prostrata*, is rubbed on the shaven scalp for the purpose of promoting the growth of hair.

VERNONIA ANTHELMINTICA, Willd

Syn Serratula anthelmintica, Roxb

Sans सीमराजो, *Somarāja* अवल्गुज, *Avalguja* वाकुची, *Vākuchi*

Vern *Hakuch*, *Somraj*, *Beng* *Bakchi*, *Hind*

The seeds of *Vernonia anthelmintica* are of great repute in Sanskrit Materia Medica as a medicine for white leprosy (leucoderma), and other skin diseases It is mentioned also as an anthelmintic, but is not much used as such, except in combination with a number of other medicines

In chronic skin diseases the seeds are taken alone or in combination with other medicines In the severer forms of skin diseases, such as psoriasis and lepra, the medicine is recommended to be continued daily for one year, when a complete cure is said to be effected The following combination is used in these cases Take of *vakuchi* seeds, and black sesamum, equal parts, powder and mix Dose, about a drachm to be taken in the morning, with

श्रितञ्च चतुर्गुणे भृङ्गरसे विपक्वम् । षड् विन्द्वो नासिकया विधेया शीघ्र निहन्त्यु शिरसो विकारान् ॥ च्युताय केशाञ्जलिताय दन्तान् दुर्बलमूलाय दृढीकरोति । सुपर्णदृष्टिप्रतिमञ्च चतुर्वाहोर्बलञ्चाभ्यधिक ददाति ॥ चक्रदत्त ।

¹ भृङ्गराजतैलम् । भृङ्गराजरसेनैव लोहकिदृफलविकम् । सारिवा च पचेत्कलकै-
सैल दारुणनाशनम् । अकालपलित कण्डूभिन्दुलुप्तञ्च नाशयेत् ॥ शार्ङ्गधर ।

tepid water The medicine should be taken after perspiration has been induced by exercise or exposure to the sun The diet should consist of milk and rice. In leucoderma a decoction of emblic myrobalan and catechu is given with the addition of powdered *vākuchi* seeds¹

Externally it is used in skin diseases in a variety of forms such as paste, oil, etc The following combination is said to be very useful in eruptions attended with itching Take of *vākuchi* seeds, seeds of *Cassia Sophora* (*hasamarda*) and *Cassia Tora* (*chakramarda*), turmeric and common sea salt, equal parts, rub them together into a paste with whey and fermented paddy water (*kānjika*), and apply over the eruptions² *Vākuchi* seeds four parts and orpiment one part are rubbed into an emulsion with cow's urine, and applied to the patches of white leprosy or leucoderma³

Somaraji taila Take of *vākuchi* seeds, twelve seers and a half, water sixty four seers, and boil down to sixteen seers Take of the seeds of *Cassia Tora* (*chakramarda*) twelve seers and a half, water sixty four seers, and boil down to sixteen seers Boil these two decoctions with sixteen seers of cow's urine, sixteen seers of mustard oil and the following substances in the form of a paste, namely root of *Plumbago rosea* (*raktachitrāla*), of *Gloriosa superba* (*lānguli*), ginger, turmeric, *pāṭchak* root, seeds of *Pongamia glabra* (*lāraṇja*), root *Clitoria ternatea* (*aparājita*), of *Nerium odorum* (*karavīra*) and of *Calotropis gigantea* (*aṭṭa*), bark of *Alstonia scholaris* (*saptaparni*), wood of *Acacia catechu* (*khadira*), of *symplocos*

¹ अवलगुणाद्भीजकर्म पीत्वा कीष्टेन वारिण्या । भोजनं सर्पिषः कार्यं सर्वकुष्ठप्रणाशनम् ॥ त्रीन्नेत्रेण कुष्ठेन परीतदेही यः सीमराजी नियमेन खादेत् । सवत्सरं कृष्णतिलद्वितीया स सीमराजी वपुषातिशेते ॥ घर्मसेवी कटुश्लेष्म वारिण्या वागुजी पिवेत् ॥

चक्रदत्त ।

² अवलगुज कासमर्द्धं चक्रमर्द्धं निशायुतम् । माणिस्येन तुल्याशं सस्तुकाञ्जिकपेपितम् । ककु कण्डू ज्वल्युया सिद्ध एष प्रयोगराट् ॥

चक्रदत्त ।

³ कुष्ठोऽवलगुजजीनाद्धरितालचतुर्थभागसमिख । सूत्रेण गवा पिष्टं सर्ववर्णकरणपरः श्वित्रे ॥

चक्रदत्तः ।

Racemasa (ladhra), black pepper, *nim* leaves, leaves of *Cassia Sophora (kāsamarda)*, juice of cow-dung, orpiment and realgar, each eight tolās. This oil is said to cure all sorts of skin diseases from vitiated blood, ringworm, prurigo, etc.¹

ANACYCLUS PYRETHRUM, *D C* Pellitory root was unknown to the ancient Hindus. In later compilations as Saran-gadhara and the Bhāvaprakāsa it is occasionally mentioned under the name of *Akarākarava*, and is used as an ingredient of compound prescriptions, as for example in the *Akarādi churna* described under opium.

ENHYDRA HELONCHA, *D C* *Syn Hingtsha repens, Roxb Sans हिलमोचिका, Hilamochikā Vern Hinchā, Beng Har-huch, Hind*. The leaves of this water plant are eaten by the natives as a vegetable. Being somewhat bitter they are regarded as wholesome and invigorating. Medicinally they are described as laxative and useful in diseases of the skin and nervous system. The fresh juice of the leaves, in doses of about a tolā is, prescribed by some Kavirajas in Calcutta, as an adjunct to tonic metallic medicines given in neuralgia and other nervous diseases.

NAT ORDER PLUMBAGINACEÆ.

PLUMBAGO ZEYLANICA, *Linn*

Sans चित्रक, Chitraka Vern Chita, Beng Hind

THE root of *Plumbago Zeylanica* is said to increase the digestive power, to promote the appetite and to be useful in dyspepsia, piles, anasarca, diarrhoea, skin diseases, etc. It is much used as a stimulant adjunct to other preparations, in the form of a

¹ बृहत्समीरानी तैलम् । समरानीतुलाक्ताथे दद्रुन्नस्य तथैव च । विपचेत्पलिकै-
र्भागैः कटुतैलाढके भिषक् । चित्रकं लाङ्गलीं लीधं नागरं कुष्ठमेव च । हरिद्रा
नक्तमालञ्च हरितालं मनःशिला । आस्तीता करवीरश्च सप्तपर्णार्कं गोमयम् । खदिर
निम्बपत्रञ्च मरिचं कासमर्दकम् । गोमूत्रस्याढकं दत्त्वा शनैर्मृदग्निना पचेत् । हन्ति
सर्वाणि कुष्ठानि कण्डूदृष्टव्रणानपि । किटिमं दद्रुजातञ्च गात्रवैषणं नाशनम् ॥

रादौयसारसङ्ग्रहः ।

combination called *trimada* consisting of plumbago root, *báberang* seeds and the tubers of *Cyperus rotundus* (*mustaka*)

It enters into the composition of numerous medicines for dyspepsia. The following is an illustration. Take of plumbago root, rock salt, chebulic myrobalan and long pepper, equal parts, powder and mix. Dose, about forty grains.¹ A favourite medicine for flatulence is an old prescription of Susruta called *Shaddharana yoga*. It is a powder composed of equal parts of the following substances, namely, plumbago root, *indrayava* seeds, root of *Stephania hernandifolia* (*patha*), of *Picrorrhiza Kurroa* (*katuki*), *atis*, and chebulic myrobalan. Dose, about a drachm.²

The root of *Plumbago Zeylanica* is said to exercise a beneficial effect on piles, in which disease it is given in various combinations. One mode of administering it, is as follows. An earthen jar or pot is lined in its interior with a paste of the root, and curdled milk (*dadhu*) or *kanyika* is prepared in this pot, and taken by persons affected with hæmorrhoids and prurigo.

Plumbago root reduced to a paste is applied to abscesses with the object of opening them. It enters also into the composition of several preparations used as caustics. The following is an illustration. Take of plumbago root, root of *Baliospermum montanum* (*danti*), the milky juice of *Euphorbia nerifolia* (*snuhi*), and of *Calotropis procera* or *Hamiltoni* (*arka*), marking nut, sulphate of iron, treacle and rock salt, equal parts, mix them together and make into a paste.³

PLUMBAGO ROSEA, *Linn Sans* रक्तचित्रक, *Raktachitraka* *Vern Lal chutá*, *Beng*. The properties of the root of *Plumbago rosea* are said to be like those of *P. Zeylanica*. It has besides a specific

¹ चिन्मूलपथ्यमगधीरवक्त्रिचूर्णमुष्णाम्बुना पिवति यः खलु नष्टवक्त्रिः । तस्याभिपेक्ष सृष्टेन वर नवान्न भक्षीभवत्यशितमातमिह क्षणेन ॥ चक्रदत्त ।

² चित्रकीन्द्रयवा. पाठा कटुकातिविषाभयाः । मर्याद्व्याधिप्रशमनी योग षड्-धरण स्मृतः ॥ चक्रदत्त ।

³ दन्ती चित्रकमूलत्वक् सुधार्कं पयसी गुड । भस्मातकस्य काशीश सैन्धव दारणे स्मृतः ॥ शार्ङ्गधर ।

action on the uterus *. The root of *Plumbago rosea* taken internally will expel the foetus from the womb, whether dead or alive¹ This root is a more powerful vesicant than that of *P. Zelanica*, and enters into the composition of caustic pastes and stimulant and rubefacient applications

NAT ORDER MYRSINACEÆ.

EMBELIA RIBES, *Burm*

Sans विडङ्ग, *Vidanga Vern* Baberang, *Hind*.

SUSRUTA describes the seeds of *Embelia Ribes* as anthelmintic, alterative and tonic and recommends their use along with liquorice root for the purpose of strengthening the body and preventing the effects of age. Later writers regard *baberang* as carminative, stomachic, anthelmintic and useful in intestinal worms, dyspepsia, and skin diseases.

For expelling intestinal worms, the powder of the seeds is given in drachm doses with honey, or with an infusion of the seeds. A compound powder and a *ghrita* are also prepared by the addition of various other drugs²

* It is generally known that the scraped root of *Plumbago rosea* is introduced into the mouth of the womb, for the purpose of procuring abortion. The root is sometimes put to another use, a knowledge of which is likely to be of importance in a medico legal point of view. Many years ago I had under my treatment a married female, who had accidental abortion and copious hæmorrhage after it. On the third day after the accident, she was brought to hospital, suffering from severe pain in the pelvic region, purulent discharge and high fever. On examination I found a piece of the *lālchitra* root, with a little rag wrapped round it, projecting into the vagina from the cervix uteri. I was told that a midwife had introduced it into the womb with the object of checking hæmorrhage after the abortion. If this woman had been a widow and had died from the effects of the abortion, and if on examination of the dead body, the root of the *lālchitra* had been found in the position mentioned above, the inevitable conclusion would have been, that it was introduced for the purpose of procuring abortion.

¹ गरीमदनदहनमूल चिरजमपि गर्भं स्रतमस्रत वा निपातयति ॥

चक्रदत्त ।

² विडङ्ग शतपाण्ण्य विडङ्गेनावधूलितम् । पीत कृमिहर दृष्ट कृमिजांश्च गदाञ्जयेत् ।
लिङ्गादिडङ्गचूर्णं वा मधुना कृमिनाशनम् ॥

भावप्रकाश, ।

Báberang enters into the composition of several applications for ringworm and other skin diseases. The following is an example. Take of *báberang*, rock salt, chebulic myrobalan, *bakuchi*, mustard, turmeric and the seeds of *Pongamia glabra* (*laranja*), equal parts and make them into a thin paste with cow's urine¹

NAT ORDER SAPOTACEÆ

BASSIA LATIFOLIA, Roxb

Sans मधूक, *Madhuka* Vern *Mauá*, Beng *Hind*

THE flowers of *Bassia latifolia* yield a distilled spirit which is described by Susruta as heating, astringent, tonic and appetizing. The flowers are regarded as cooling, tonic and nutritive. They enter into the composition of several mixtures of a cooling and demulcent character. The following is an example. Take of the flowers of *Bassia latifolia*, bark of *Gmelina arborea* (*gambhári*), red sandal wood, root of *Andropogon muricatum* (*ushira*), coriander and raisins, equal parts, and prepare an infusion in the usual way. This infusion is given with the addition of sugar for the relief of thirst, burning of the body and giddiness²

The seeds of *Bassia latifolia* yield by expression a thick concrete oil which is used in lamps, and by the poorer classes, for culinary purposes. This oil called *madhuka sara* in Sanskrit, is recommended to be applied to the head in cephalalgia³

MIMUSOPS ELENGI, Linn

Sans वकुल, *Vakula* Vern *Maulsarau*, *Hind*

THIS ornamental tree is generally reared in gardens for the sake of its fragrant flowers from which a distilled water is prepared. The ripe fruits are sweetish and edible. The unripe

¹ विडङ्ग सैन्धव शिवा शशिरिखा सर्पप करञ्ज रजनीभिः । गोजलपिष्टो लेपः
कुष्ठहरी दिवसनाथसमः ॥ चक्रदत्त ।

² मधूकपुष्पगाम्भारी चन्दनीशीरषान्यकैः । द्राक्षायाश्च कृतः फण्यः शीतः शर्करया युतः ॥
लणापिप्तहरः प्रीती दाह मूर्च्छा भमान् जयेत् ॥ शार्ङ्गधर ।

³ मधूकसारिण शिरः स्निग्धसास्य विरेचयेत् ॥

चक्रदत्त ।

fruits are astringent and are recommended to be chewed for the purpose of fixing loose teeth¹ The bark is described as astringent A decoction of the bark is used as a gargle in diseases of the gums and teeth²

NAT. ORDER STYRACEÆ.

SYMPLOCOS RACEMOSA, Roxb

Sans लोध्र, *Lodhra* तिळक, *Tillaka* *Vern* Lodh, *Beng* Hind

THE bark of this tree, used in dyeing red, is considered cooling, astringent and useful in bowel complaints, eye diseases, ulcers, etc It enters into the composition of numerous prescriptions for bowel complaints, along with *bela*, and *kurchi* bark A decoction of the wood is used as a gargle for giving firmness to spongy and bleeding gums³ In bleeding from the gums, a paste composed of *lodhra* bark, *rasot*, tubers of *Cyperus rotundus* (*mustaka*) and honey, is applied to the gums⁴ The Amritasagara recommends the following application for ophthalmia. Take of *lodhra* bark, liquorice root, burnt alum and *rasot*, equal parts, and rub into a paste with water. This is applied round the eyes

NAT. ORDER JASMINACEÆ

NYCTANTHES ARBOR TRISTIS, Linn

Sans शेफालिका, *Sephālika* रजनौद्दासा, *Rajanihāsa*

Vern Suuh, *Beng* Harsingār, *Hind*

THIS plant is cultivated in gardens for the sake of its flowers. These open at sunset, and before morning strew the ground thickly

¹ चलदन्तस्थिरकर कार्यं वृक्षलवर्धणम् ॥

चक्रदत्त ।

² दन्तघाली तु गण्डूषो वृक्षलवर्धकृती हित ॥

चक्रदत्त ।

³ भिक्षोदककषायेण तथैवामलकस्य वा । प्रक्षालयेत् मुखं नेत्रे स्वस्थशीतोदकेन वा ॥ नीलिकां मुखशीषञ्च पीडकां व्यङ्गमेव च । रक्तपिच्छकतान् रोगान् सद्यएव विनाशयेत् ॥

सुश्रुत ।

⁴ शैशिरे हृतरक्ते च लोध्रमुत्तरसाधनैः । सचौद्रे शस्यते लेपो गण्डूषे क्षीरिणी हिता ॥

चक्रदत्तः ।

with their fallen corollas Native women and children collect them and separating the orange coloured tubes from the white petals, dry them in the sun and preserve them for dyeing their clothes a beautiful buff or orange colour

The leaves are used in medicine They are regarded as useful in fever and rheumatism The fresh juice of the leaves is given with honey in chronic fever¹ Some preparation of iron is also generally given along with it A decoction of the leaves prepared over a gentle fire is recommended by several writers as a specific for obstinate sciatica²

JASMINUM GRANDIFLORUM, Linn

Sans जाती, *Jati Vern* Chameli, *Hind*

THE fragrant flowers of *Jasminum grandiflorum* are used for preparing a scented oil, which is considered cooling, and is much used by the richer natives for anointing their bodies before bathing The leaves of this plant are used medicinally in skin diseases, ulcers in the mouth, otorrhœa, etc and enter into the composition of numerous prescriptions for these diseases

The fresh juice of the leaves is applied to soft corns between the toes³ In ulcerations or eruptions in the the mucous membrane of the mouth, the leaves are recommended to be chewed⁴ An oil prepared with the juice of the leaves is poured into the ear in otorrhœa⁵

JASMINUM SAMBAC, Willd *Sans* चारिंकी, *Vérshuki Vern* Bel, *Beng Hind* The properties of this plant are said to resemble those of *Jasminum grandiflorum*

¹ मधुना सर्वज्वरमुच्छेफालीदलजी रसः ॥ चक्रादत्त ।

² श्रेफालिकादलैः काथी मृद्वग्निपरिसाधितः । दुर्व्यारं गृध्रसीरोग पीतमात्रं समुद्धरेत् ॥ चक्रादत्त ।

³ जातीपत्रस्य समर्थं दद्यादलस्यैकं भिषक् ॥ चक्रादत्त ।

⁴ मुखपाके सिरावेधः शिरः कायविरचनम् । कार्यं च बहुधा नित्यं जातीपत्रस्य चर्चयन् ॥ भावप्रकाशः ।

⁵ जातीपत्ररसं तैलं विपक्वं पूतिकर्णजित् ॥ चक्रादत्त ।

NAT. ORDER APOCYNÆ

NERIUM ODORUM, *Solander**Sans* करवीर, *Karavira* अश्वमारक, *Asvamāraka**Vern* Karabi, *Beng.* Kaner, *Hind*

Two varieties of *Karavira* are described in the Bhāvaprakāśa, namely white and red flowered. The properties of both are identical, their roots being regarded as poisonous when taken internally and useful in skin diseases and inflammatory affections. The *Nerium odorum* has several synonyms in Sanskrit signifying horse-killer. It would seem from this, that the poisonous roots were used for destroying horses.

Karaviradya taila ¹ Take of sesamum oil four seers, decoction of the root of *Nerium odorum*, eight seers, cow's urine, eight seers, *Plumbago rosea* root and *báberang* seeds, each half a seer, in the form of a paste, boil them together and prepare an oil in the usual way. This oil is used in eczema, impetigo and other skin diseases.

The root of *Nerium odorum* beaten into a paste with water is recommended to be applied to chancres and ulcers on the penis ². The fresh juice of the young leaves is poured into the eyes in ophthalmia with copious lachrymation ³.

ALSTONIA SCHOLARIS, *R Br**Sans* सप्तपर्ण, *Saptaparna* विशालत्वक्, *Visalatvak**Vern* Chhátim, *Beng* Chhátán, *Hind*.

THE bark of *Alstonia scholaris* is very thick and spongy, hence the tree has received the names of *Visalatvak*, *Vrihattvak*, etc

¹ करवीरस्य तैलम् । श्वेतकरवीरस्य गोमूत्रं चित्तकं विहङ्गञ्च । कुष्ठेषु तैलयोगं सिद्धीऽयं सम्प्रती भिषजाम् ॥ चक्रदत्त ।

² करवीरस्य मूलं परिपिष्टेन वारिणा । असाध्यपि व्रणस्य लिङ्गीत्या रुक् प्रलीपनात् ॥ शार्ङ्गधरः ।

³ करवीरतरुणकिशलयच्छेदीह्रवमङ्गलसलिलसंपूर्णम् । नयनपुङ्गं भवति दृढं सहस्रेव तत्क्षणात् कुपितम् ॥ चक्रदत्त ।

It is described as tonic, alterative and useful in fever and skin diseases. Susruta gives the following formula for use in catarrhal fever. Take of the bark of *Alstonia scholaris*, *gulanča*, *nim* bark and the bark of *Betula Bhojpattra*, equal parts, in all two tolas and prepare a decoction in the usual way¹. It enters into the composition of several formulæ for skin diseases. The following is an illustration.

Amritāshṭaka pāchana. Take of the bark of *Alstonia scholaris*, *gulanča*, leaves of *Justicia Adhatoda* (*vāsaka*) and *Trichosarthes dioica* (*patola*), tubers of *Cyperus rotundus* (*mustaka*), *Calamus Rotang* (*vetra*), catechu and *nim* leaves, and prepare a decoction in the usual way.

HOLARRHENA ANTIDYSENTERICA, R. Br.

Sans कुटज, *Kutaja*, कालिङ्ग, *Kālinga*

Vern Kurchu, Beng Kureyá, Kaureyá, Hird.

THE bark of *Holarrhena antidysenterica* constitutes the principal medicine for dysentery in the Hindu Pharmacopæia. Before the discovery of the efficacy of ipecacuanha in this disease, many chronic cases which did not get well under European medical treatment, used to be cured by the Kavirajes, by their preparations of this bark. The seeds called *Indrayava* in Sanskrit and *Indrajav* in the vernacular, are also used in medicine, they being regarded as astringent, febrifuge and useful in fever, dysentery, diarrhoea, and intestinal worms.

The bark of *Holarrhena antidysenterica* is administered in a variety of ways. The expressed juice of the bark is given with honey². A fluid extract of the bark is given with the addition of ginger and *átis*³. A compound decoction called *Kutajashṭaka* is

¹ समच्छुद्धं गुडूचीञ्च निम्ब स्फूर्यकमेव च । काययित्वा पिवेत् काय सचीद्रं
कफजी व्वरे ॥ सुश्रुतः ।

² स्थूलवष्णुलिकापत्ररसः पानेऽप्युपैहति । सर्व्वान्तिसारान् श्योनाककुटजत्व-
यसोऽप्यवा ॥ शार्ङ्गधरः ।

³ कुटजत्वक्कृतः काषी घनीभूतः सुशीतलः । लोहितोऽतिविषायुक्तः सर्व्वान्ती-
सारानुह्वेत् ॥ चक्रदत्तः ।

thus prepared Take of *kuṭaja* bark, *dtis*, root of *Stephania hernandifolia* (*pāthā*), flowers of *Woodfordia floribunda* (*dhātaki*), bark of *Symplocos racemosa* (*lodhā*), root of *Pavonia odorata* (*bālā*), rind of pomegranate fruit, and the tubers of *Cyperus rotundus* (*mustaka*), quarter tola each, water thirty two tolas, boil together till reduced to one-fourth¹

*Kuṭajaleha*² or confection of *kuṭaja* bark Take of *kuṭaja* bark twelve seers and a half, water sixty-four seers, boil down to sixteen seers and strain Boil the strained decoction till reduced to a thick consistence, then add *sachal* salt, *yavakshara*, *vit* salt, rock salt, long pepper, flowers of *Woodfordia floribunda* (*dhātaki*), *indrayava* seeds and cumin seeds, each sixteen tolas, in fine powder, and prepare a confection Dose, about a drachm with honey in chronic and acute dysentery

*Pathādya churna*³ Take of the root of *Stephania hernandifolia*, fruit of *Aegle Marmelos* (*vilva*), plumbago root, long pepper, black pepper, ginger, bark of *Eugenia Jambolana*, rind of pomegranate fruit, flowers of *Woodfordia floribunda* (*dhātaki*), root of *Picrorrhiza Kurroa* (*katuki*), *dtis*, tubers of *Cyperus rotundus* (*mustaka*), wood of *Berberis Asiatica* (*dārvi*), *chiretd*, seeds of *Holarrhena antidy-senterica* (*indrayava*), one part each, *kuṭaja* bark, equal in weight to all the above ingredients, powder them finely and mix Dose, about one to two scruples to be taken with rice-water and honey

¹ कुटजातिविषा पाठा घातकी लोभ्र सुसुक्के । झीवर दाडिमयुते कृत काथ समाक्षिकः । पेयो मोचरसेनैव कुटजाष्टकसञ्ज्ञक । अतीसारान् जयेद्दाह रक्तशूलाम-
दुस्तरान् ॥ शार्ङ्गधर ।

² कुटजलेह । शत कुटजमूलस्य क्षुण्ण तीयार्मणे पचेत् । काथे पादावशिष्टेऽस्मिन्
लेहे पूते पुनः पचेत् । सौवर्चलं यवचारं विडं सैन्धवं पिप्पली । घातकीन्द्रयवाजाजी-
चूर्णं दत्त्वा पलद्वयम् । लिङ्गादरमात्रं तत् शीतं चैद्रेण सयुतम् । पक्वापक्वमतीसार-
नानावर्णं सवेदनम् । दुर्ब्बारं यद्वर्णरीरोगं जयेत्सैव प्रवाहिकाम् ॥

चक्रदत्त ।

³ पाठाद्य चूर्णम् । पाठां बिल्वानलं व्योषं जम्बूदाडिमं घातकी । कुटजाति-
विषा सुसुक्के दाडिमीं भूनिम्बं वल्कलम् । सर्व्वैरेतैः समं चूर्णं कौटजं तण्डुलाम्बुना । सचौद्रश्च
पिवेच्छर्द्दिज्वरातिसारशूलवान् । तद्दाहग्रहणीदीपागोचकानलसादजित् ॥

चक्रदत्तः ।

Another compound powder called *Gangādhara churṇa*, is of similar composition to the above, with a few additional substances

Kuṭajarishā,¹ or fermented liquor of *kuṭaja* Take of *kuṭaja* root bark, twelve seers and a half, raisins, six seers and a quarter, flowers of *Bassia latifolia* (*madhuka*), and bark of *Gmelina arborea* (*gambhari*), eighty tolās each, boil them together in two hundred and fifty six seers of water, till reduced to sixty-four seers, and strain. Then add flowers of *Woodfordia floribunda* (*dhātaki*), two seers and a half, treacle twelve seers and a half, and let the mixture ferment for a month, after which it will be ready for use. Dose, one to three ounces

An oil for external application called *Grahaniṃhura taila* is prepared with sesamum oil, decoction of *kuṭaja* bark and a number of astringent and aromatic substances in small quantities

*Pradarīṇī lauha*² Take of *kuṭaja* bark, twelve seers and a half and prepare a fluid extract as in the preparation called *kuṭaja-lakṣa*, above described. Then add the following substances in fine powder, namely, gum of *Bombax Malabaricum* (*mocharasa*), Indian madder, root of *Stephania hernandifolia*, (*pāṭhā*), *bela* fruit, tubers of *Cyperus rotundus* (*mustaka*), flowers of *Woodfordia floribunda* (*dhātaki*), *ātis*, prepared talc and iron, each eight tolās, mix them intimately and prepare a confection. Dose, about a drachm. This preparation is given in menorrhagia and other discharges from the uterus

¹ कुटजारिष्टः । तुला कुटजमूलस्य महीकाईतुला तथा । मधुकपप कागमर्यो-
भांगान् दश पलोन्मितान् । चतुर्द्वेण्डुमस पक्ता काथयेद्द्विणशेषिते । धातव्या विशतिपल
गुडस्य च तुलां चिपेत् । मासमात्रं स्थितो भाण्डे कुटजारिष्टसञ्चकः । व्वरान् प्रशमयेत्
सर्वान् कुर्यात्तीक्ष्ण धनस्यम् ॥ शार्ङ्गधर ।

² प्रदरारिणीहम् । वस्त्रकस्य तुला सस्यक् जलद्विणे विपाचयेत् । अष्टभागावशिष्टम्
कपायमवतारयेत् । वस्त्रपूते घनीभूते द्रव्याणीमानि दापयेत् । समङ्गा शालिल पाठा
विलिं शुसक्त धातकी । अरुणातिविषा व्योम लौह सर्वे पल पलम् । कोलमात्र
प्रयुञ्जीत कुशमूल पयो छनु । श्वेत रक्तं तथा नील पीत प्रदरदुस्तरम् । कुचिशूल
कटीशूल देहशूलश्च सर्व्वगम् । प्रदरारिरय लौहो हन्ति रोगान् सुदुस्तरान् । आयु पुष्टि-
करञ्चेव वलवर्णाग्निवर्द्धनः ॥ सेपय्यरत्नावली ।

The seeds of *Holarrhena antidysenterica* enter into the composition of a good many prescriptions for fever, bowel complaints, piles, intestinal worms, etc. The following are a few illustrations. Take of *indrayava* seeds and the tubers of *Cyperus rotundus* (*mustaka*), each four tolas, rub them into a paste with water and boil in one seer of water, till the latter is reduced to one-fourth. This boiled emulsion is given in doses of about a half to one ounce with honey¹. A decoction of *Indrayava* seeds in usual proportions is used for checking bleeding from Piles. It is given with the addition of ginger².

*Laghu gangādhara chuina*³. Take of *indrayava* seeds, tubers of *Cyperus rotundus*, (*mustaka*), *bela* fruit, bark of *Symplocos racemosa* (*lodhra*), gum of *Bombax Malabaricum* (*mocharasa*), and flowers of *Woodfordia floribunda* (*dhataki*) equal parts, powder and mix. Dose, about a drachm with butter milk and treacle, in various sorts of bowel complaints.

ICHNOCARPUS FRUTESCENS *Sans* शरिवा, *Sāriva*
Vern *Shyāmalata*. The properties of the roots of this plant are said to be identical with those of *Hemidesmus Indicus*. These two drugs are often used in combination under the designation of *Sarivadvaya*, (see next article).

NAT ORDER ASCLEPIADEÆ

HEMIDESMUS INDICUS, *R Br*

Sans अनन्तमूल, *Anantamula* शरिवा, *Sāriva*

Vern *Anantamul*, *Beng Hind*

In Sanskrit Medicine, *Hemidesmus Indicus* and *Ichnocarpus frutescens* are both called *sāriva* and are described under the name

¹ सुस्तकेन्द्रयवै सिद्धा प्रसथ्या द्विपलोन्मिता । सुशोता मधुसयुक्ता रक्तातीसार-
नाशिनी ॥ शार्ङ्गधर. ।

² शक्रक्ताय, सविन्धो वा किवा विल्लशलाटव । योय्या रक्ताशंसैसहत् व्योत्क्रिका-
मूललेपत ॥

³ लघुगङ्गाधरचूर्णम् । सुस्तमिन्द्रयव विल्ल खीध मोचरसन्तथा । घातकी चूर्णयेत्तक्र-
गुडाभ्या पाययेत् सुधी । सर्वातीसारशमन निरुणद्धि प्रवाहिकाम् । लघुगङ्गाधर
नाम चूर्ण सग्राहक परम् ॥ शार्ङ्गधर. ।

of *sārvādvaya* or the two *sarivās*. They are often used together. When however *sarivā* is used in the singular number it is the usual practice to interpret it as *sydm.alatā* (*Ichnocarpus frutescens*). The roots of these plants are said to be sweet, demulcent, alterative and useful in loss of appetite, disinclination for food, fever, skin diseases, syphilis and leucorrhœa. They are generally used in combination with a number of other medicines. The following are a few illustrations. Take of *anantamula*, root of *Pavonia odorata* (*bala*), tubers of *Cyperus rotundus* (*mustaka*), ginger, and the root of *Picrorrhiza kurroa* (*katuki*), equal parts, in all two tols, and reduce them to a paste with water. This dose administered with warm water in the morning, is said to clear the bowels and relieve fever ¹.

A decoction of the roots of colocynth, *anantamula*, *sārvā* and *Hedyotis biflora* (*paspāria*), prepared in the usual way, is administered with the addition of powdered long pepper and bdellium in chronic skin diseases, syphilis, elephantiasis, loss of sensation and hemiplegia ².

CALOTROPIS GIGANTEA AND PROCERA, R. Br.

Syn Asclepias gigantea, Roxb

Sans अर्क, Arka, अलर्क, Alarka

Vern Alanda, Beng Madar, Hind

Calotropis procera and *C. gigantea*, both pass by the native name of *mādar*. "*C. procera* the smaller of the two, prefers the drier climate of the Deccan, the Upper Provinces of Bengal, the Punjab and Scinde, *C. gigantea*, lower Bengal, the Madras

¹ अनन्ता वालक सुप्त नागर कटुरोहिणी । पिप्पा सुखाम्बुना कल्क पायवेदच-
सम्भितम् । कल्क, खल्वेन कालेन हन्यात् सर्व्वज्वरामयम् । विदध्यात् कीष्ठसमृद्धि-
दीपयेच्च ऊताशनम् ॥ भेषज्यरदावली ।

² इन्द्रवारुणिकानन्ता शरिवा पर्पटैः समी । एभिः कृत पिवेत् काथ कथा-
शुश्रुतुसयुतम् । अष्टादशसु कुष्ठेषु वातरक्तार्दिते तथा । उपदेशे श्लोपदे च प्रसुप्ते
पचघातके ॥ शार्ङ्गधर ।

and Malayan Peninsulas, and Ceylon." Sanskrit writers mention two varieties founded upon the colour of the flowers, namely, white, called *alarka*, and red, called *arka*. The milky juice, flowers, root-bark and leaves are all used in medicine. The root-bark is said to promote the secretions and to be useful in skin diseases, enlargements of the abdominal viscera, intestinal worms, cough, ascites, anasarca, etc. The milky juice is regarded as a drastic purgative and caustic and is generally used as such in combination with the milky juice of *Euphorbia nerifolia*. The flowers are considered digestive, stomachic, tonic and useful in cough, asthma, catarrh and loss of appetite.

The leaves mixed with rock salt are roasted within closed vessels, so that the fumes may not escape. The ashes thus produced are given with whey in ascites and enlargements of the abdominal viscera ¹.

The following inhalation is prescribed for cough. Soak the powdered root-bark of *arka* in its own milky juice and dry. Bougies are prepared with this powder and their fumes inhaled ². The root-bark, reduced to a paste with sour congee, is applied to elephantiasis of the legs and scrotum ³. The milky juices of *Calotropis gigantea* and *Euphorbia nerifolia* are made into tents with the powdered wood of *Berberis Asiatica*, for introduction into sinuses and fistula in ano ⁴. The milky juice is applied to carious teeth for relief of pain ⁵.

¹ अर्कपत्रं सलवणमन्तर्धूमं दह्यन्त । मस्तुना तत् पिबेत् चारं गुग्गुलीही-
दरापहम् ॥ चक्रदत्त ।

² मरिचं शीतार्कचौरैर्वाकीं त्वचमाशु भाविता शुष्काम् । कृत्वा विधिना धूमं पिवत्
कासा शमयन्ति ॥ चक्रदत्त ।

³ निषिद्धमारणालेन रुपिकासूलवल्कलम् । प्रलीपात् श्लेष्मद्वह्निं बद्धमूलमपि
चणात् ॥ चक्रदत्त ।

⁴ सुहृत्कर्कदुग्धं दाव्वीर्भिर्व्वर्त्ति कृत्वा विचक्षणः । भगन्दरगतिं ज्ञात्वा पूरयेत्ता
प्रयत्नतः ॥ चक्रदत्त ।

⁵ सतच्छर्दार्कदुग्धाभ्यां पूरणं क्षिप्तिदन्तनुत् ॥ चक्रदत्त ।

*Arka taila*¹ Take of prepared sesamum oil, four seers, juice of *arka* leaves, sixteen seers, and turmeric reduced to a paste, one seer, boil them together in the usual way This oil is said to be useful in eczema, and other eruptive skin diseases Sometimes orpiment is substituted for turmeric in this preparation

NAT. ORDER LOGANIACEÆ.

SIRYCHNOS NUX VOMICA, *Linn*

Sans कुपीलु, *Kupilu*, कुलक, *Kulaka*, विषमुष्टी, *Vishamushti*

Vern *Kuchulā*, *Beng* *Hind*

NUX VOMICA has been introduced into Hindu Medicine at a recent period There is no generally recognized Sanskrit name for it In some recent Sanskrit compilations it is mentioned under its vernacular name *kuchula*, a term which is not to be found in standard Sanskrit dictionaries Sarangadhara and other writers give some prescriptions containing a drug named *vishamushti* which is generally interpreted to mean in these places, *nux vomica* seeds, but *vishamushti* according to the *Bhāvaprakāśa* has an edible fruit and is called *Karavua* in Hindi In this work the Sanskrit term *kupilu* with its synonyms, *kulaka*, *vishatinduka*, *marakatatinduka*, etc., is said to be the Sanskrit synonyms for *kuchula* and this translation is followed in some Hindi medical books, as for example in the treatise on the properties of drugs, compiled by Pundit Keshava Prasada Divedi of the Agra College This interpretation however is not accepted in Bengal, for neither Wilson nor Sir Raja Rādhikanta Deva has given *kuchula* as the Vernacular for *kupilu*, nor does this term or any of its synonyms above mentioned, occur in any Sanskrit medical prescription In our account of this drug we will according to the practice of our Kavirājas in Bengal interpret *Vishamushti* as *kuchula*

The *Strychnos nux vomica* is indigenous to most parts of India I found it to be common in the jungles about Manbhoom The

¹ अर्कतैलम् । अर्कपत्ररसे पक्वं कटुतीक्ष्णं निशायुतम् । मनःशिलायुतं वापि पाना-
कच्छादिनाशनम् ॥ चक्रदत्तः ।

ripe fruits of the size of apples, have a beautiful orange colour and contain a bitter gelatinous pulp, within which the flat and curiously umbilicated seeds are found imbedded

Nux vomica seeds produce a sort of intoxication, for which they are habitually taken by some natives as an aphrodisiac. Those who do so gradually become so far accustomed to this poison that they often come to take one seed daily, which is cut into small pieces and chewed with a packet of betel leaf. Medicinally the seeds are used in dyspepsia and diseases of the nervous system

Samuragaja kesari Take of *nux vomica*, opium and black pepper equal parts, and make into two grain pills. These are given with the juice of betel leaves in diseases of the nervous system

*Sulharanayoga*¹ Take of chebulic myrobalan, long pepper, black pepper, ginger, *nux vomica*, assafoetida, sulphur and rock salt, equal parts and make into four grain pills. These are given with warm water in dyspepsia with pain after meals, and in diarrhoea. Sarangadhara gives the following prescription in which the term *vishamushṭi* is usually understood to mean *nux vomica*. Take of mercury, sulphur, aconite, ajowan, the three myrobalans, *sarjikāksnara* (impure carbonate of soda), *yavakshāra* (impure carbonate of potash), rock salt, plumbago root, cumin seeds, *sachal* salt, seasalt, *baṭerang*, black pepper, long pepper and ginger, equal parts, *vishamushṭi* (*nux vomica* seeds) equal in weight to all the above ingredients and make into pills of the size of black pepper corns with lemon juice. These pills are given to promote the appetite and increase the digestive power²

¹ शूलहरणयोगः । हरीतकी तिकटुक कुचिला हिङ्गु गन्धक । सैन्धवश्च सम सर्व्ववटी, कुर्यात् सुखावहा । लघुकोजप्रमाणास्ता शस्यन्ते प्रातरेव च । एकैका वटिका यावत् शूलशूलनिवारिणी । ग्रहण्यामतिसारे च साजीर्णे मन्दपावके । योजयेदुष्णपयसा सुखमाप्नोति तत्क्षणात् ॥
रसेन्द्रसारसंग्रहः ।

² शुद्धमूत विष गन्धमजमीदा फलप्रयम् । सर्जिचार यवचार वङ्गि सैन्धव जीरकम् । सौवर्चल विडङ्गानि सामुद्र तूषण समम् । विषसृष्टि सर्व्वतुल्य जन्वीरास्त्रेन मर्हयेत् । मरिचाभा वटी खादेद्द्विजमान्दप्रशान्तये ॥
शार्ङ्गधरः ।

STRYCHNOS POTATORUM, *Linn fil*

Sans. कतक, *Kataka*, अम्बुप्रसाद, *Ambuprasāda Vern Numa'i, B*

THE use of these seeds for the purpose of clearing muddy water is as old as Susruta, who mentions it in his chapter on water. Medicinally it is chiefly used as a local application in eye diseases. The seeds are rubbed with honey and a little camphor, and the mixture applied to the eyes in lachrymation or copious watery discharge from them. Rubbed with water and rock salt they are applied to chemosis in the conjunctiva. They enter also into the composition of several complex preparations for ulcer of the cornea, etc.¹

NAT. ORDER GENTIANACEÆ

OPHELIA CHIRATA, *Grisebach*

Syn *Gentiana Chirayita, Roxb*

Sans किराततिलक, *Kirātātīlka*, भूमिम्ब, *Bhumimba*

Vern *Chiretā, Beng Hind*

THE *Ophelia Chirata* is indigenous to the "mountainous regions of Northern India from Simla through Kumaon to the Morung district in South Eastern Nepal." Its Sanskrit name *kirātātīlka*, means "the bitter plant of the Kirātas, an outcast race of mountaineers in the north of India." It is also called *Anāryatīlka* or the bitter plant of the Non-Aryans. The Bhavaprakāśa mentions a variety of *chireta*, under the name of *Naipāla*, that is, produced in Nepal, and describes it as a febrifuge.

Chiretā is regarded as tonic, febrifuge and laxative, and is used in fever, burning of the body, intestinal worms, skin diseases, etc. It is much used in fevers of all sorts in a variety of forms and in combination with other medicines of its class. The following are a few illustrations. Take of *chiretā*, *gulancha*, raisins, emblic myrobalan and zedoary root, equal parts and prepare a decoction

¹ शङ्ख क्षौद्रेण सयुक्तः कतक. सैन्धवेन वा । सितधार्षवर्षेणो वा पृथगञ्जनमर्जुने ॥

in the usual way¹ A compound powder called *Sudarsana churna*, is prepared by taking equal parts of fifty four different substances and of *chireta*, equal to one-half the weight of all the other ingredients, and mixing them together It is largely prescribed by native physicians in chronic febrile diseases

Kirātādi taila, or oil of *chiretā*² Take of *chiretā* one seer, water sixteen seers, boil together till reduced to four seers and strain Boil this decoction of *chiretā*, with four seers each of prepared mustard oil, *kānyika* and whey, and two tolās each of the following substances in the form of a paste, namely, root of *Sansevieria Zeylanica* (*murva*) lac, turmeric, wood of *Berberis Asiatica* (*dāruharidrā*), madder, root of *Citrullus Colocynthis* (*indravārūni*), *pāchal* root, root of *Pavonia odorata* (*bālā*), of *Vanda Rorburghii* (*rasnā*), *Scindapsus officinalis* (*gajapippali*), long pepper, black pepper, ginger, root of *Stephania hernandifolia*, (*pāhā*), *indrajaya* seeds, *sothā*, *vit*, and rock salts, root of *Justicia Adhatoda* (*vāsaka*), *Calotropis gigantea* (*arka*), *Ichnocarpus frutescens* (*shyamalata*), *Cedrus Deodara* (*devadaru*) and the fruit of *Trichosanthes palmata* (*mahākālā*) The oil thus prepared is rubbed on the body in chronic fever with emaciation and anæmia.

CANSORA DECUSSATA, *R et Sch*

Syn Platera decussata, Roxb

Sans. शङ्खपुष्पो, *San'hapushpi.*

Vern Dankuni, Beng Sankhāhuli, Hind.

THIS little plant is regarded as laxative, alterative and tonic and is much praised as a nervine It is used in insanity, epilepsy

¹ किराततिलमसृता द्राक्षां आमलकी शटीम् । निषोद्य सततं क्वाथं वातपित्तज्वरे पिवेत् ॥
भैषज्यरत्नावली ।

² किरातादि तैलम् । सूर्या लाक्षा हरिद्रे द्वे मञ्जिष्ठा सिद्धवारुणी । क्रीवेर पुष्कर रास्ना कपिवल्ली कटुवयम् । पाठा चन्द्रयवश्चैव खवणत्रयसयुतम् । श्यामा दारु वासकार्क महाकालफल तथा । दधिमन्यारनालीन कौरतेन च सम्पचेत् । प्रस्थ प्रस्थ समादाय तैलप्रस्थे विपाचयेत् । लिप्तं भुक्तं ज्वरश्चैव सन्ततं सततं

and nervous debility The fresh juice of the plant, in doses of about an ounce, is given, with the addition of honey and *pachak* root, in all sorts of insanity¹ A paste made of the entire plant, including roots and flowers, is recommended to be taken with milk as a nervine and alterative tonic² The following compound powder is used in similar cases. Take of *gulantha*, *Acleranthos aspera* (*apāmarga*), *babrang*, *pachak* root, root of *Asparagus racemosus* (*satamuli*), *Acorus Calamus* (*vacha*), chebulic myrobalan, and *Canscora decussata*, in equal parts, powder and mix It is said that the use of this powder for three days will enable a student to learn by rote a thousand couplets of poetry³

NAT. ORDER BIGNONIACEÆ.

CALOSANTHES INDICA, BI

Syn. Bignonia Indica, Linn

Sans श्योनाक, *Syonaka* अरन्नु, *Aralu*

Vern *Nasoni*, *Beng* *Arlu*, *Hind*

THIS is a small tree, growing over a large part of India The root bark is used in medicine It is considered astringent, tonic, and useful in diarrhoea and dysentery It is also an ingredient of *dasamula* (see *Desmodium gangeticum*), and is thus largely used in a great variety of disease The tender fruits are described as grateful, carminative and stomachic

तथा । धातुस्य अस्थिमज्जस्य सर्वज्वरमपीहति । कामलां ग्रहणीञ्चैव अतिसार
हलीमकम् । श्लेष्मानं पाण्डुं श्वयथुं नाशयेत् नात्र सशयः । नास्ति तैलवरञ्चैव ज्वरदर्प-
कुलान्तकम् ॥

भैषज्यरत्नावली ।

¹ ब्राह्मी कुष्माण्ड पड्यन्या शङ्खिनीस्वरस पृथक् । मधु कुष्ठ युत. पीत. सर्वोन्मादा-
पहारकः ॥

चक्रदत्त ।

² रसो गुडूचास्तु समूलपुष्पा. कल्क' प्रयोज्य' खलु शङ्खपुष्पा । आयुःप्रदान्या-
मयनाशनानि बलान्निवर्णस्वरवर्दनानि । मेध्यानि चेतानि रसायनानि मेध्या विशिष्येण तु
शङ्खपुष्पी ॥

चक्रदत्त ।

³ गुडूच्यपामार्गं विडङ्गं शङ्खिनीं वचाभयां कुष्ठं शतावरीं समा । घृतेन खीटा प्रकरोति
मानव विभिर्दिनैः श्लोकसहस्रधारिणम् ॥

चक्रदत्त. ।

The root-bark is enclosed within some leaves and a layer of clay and roasted. The juice expressed from this roasted bark is given in diarrhoea and dysentery with the addition of *mocharasa* (gum of *Bombax Malabarium*)¹

In otorrhœa, Sarangadhara recommends the use of an oil prepared by boiling, over a gentle fire, sesamum oil with a paste made of the root-bark of *Calosanthes Indica*²

STEREOSPERMUM SUAVEOLENS, D C

Syn Bignonia suaveolens, Roxb

Sans पाटला, *Patalā Vern* Pārul, *Beng* Pād, *Hind*

THIS is a middle sized flowering tree, a native of Bengal. The flowers are large, of a dark crimson colour and exquisitely fragrant. Steeped in water they impart their fragrance to it. Rubbed up with honey they are given to check hiccup. The root-bark is an ingredient of *dasamula* (see *Desmodium gangeticum*), and is thus largely used in native medicine. It is regarded as cooling, diuretic and tonic, and is generally used in combination with other medicines. The ashes of this plant are used in the preparation of alkaline water and caustic pastes.

NAT ORDER CONVOLVULACEÆ.

IPOMŒA TURPETHUM, R Br

Syn Convolvulus Turpethum, Roxb

Sans त्रिहत, *Trivrit* त्रिपुटा, *Triputā*

Vern Teori, *Beng* Nisothe, *Tarbud, Hind*

Two varieties of *trivrit* are described by most writers, namely, *sveta* or white and *krishna* or black. The white variety is preferred

¹ अरलुक्कतश्चैव पुटपाकीऽग्निदीपन । मधु मीचरसाभ्याञ्च युक्तं सर्वा-
विसारजित् ॥ शार्ङ्गधर ।

² तैलं श्लोनाकमूलेन मन्दाग्नौ परिपाचितम् । हरेदाग्नौ विदीधीत्य कर्णशूल-
प्रपूरणात् ॥ शार्ङ्गधर ।

for medicinal use as a moderate or mild cathartic. The black variety is said to be a powerful drastic and to cause vomiting, faintness and giddiness. *Trirot* has been used as a purgative from time immemorial and is still used as such by native practitioners, alone, as well as in various combinations. In fact this medicine is the ordinary cathartic in use amongst natives, just as jalap is among Europeans. The usual mode of administering it is as follows. About two scruples of the root are rubbed into a pulp with water and taken with the addition of rock salt and ginger or sugar and black pepper.

A compound powder called *Nārācha churna*,¹ is thus prepared. Take of *Trirot* root eight tolās, long pepper two tolās, sugar eight tolās, powder and mix. About a scruple of the powder is recommended to be taken before meals in constipation with hard faeces.

*Tumburādyā churna*² Take of the fruits of *Xanthoxylum hostile* (*tumburu*), rock, *rut* and *sochal* salts, *ajowan*, *fachak* root, *jatākshara*, chebulic myrobalan, assafoetida and *babrang* seeds, one part each, *trirot* three parts, powder the ingredients and mix. Dose, about a drachm with warm water, in painful dyspepsia with costiveness and flatulence.

In anasarca supposed to be caused by deranged bile, a decoction of *trirot*, *gulancha*, and the three myrobalans is recommended to be taken. Milk diet should be prescribed along with this medicine.³

¹ नाराचचूर्णम् । खण्डपल विहतासमसुपकल्या कर्णचूर्णितं द्रव्यम् । प्राग्भोजने च समधु विडालपदकं लिहेत् प्राज्ञः । एतद्वाटपुरीये पित्ते कफे च विनियोज्यम् । सुखादुर्नृपयोग्योऽयं चूर्णो नाराचको नाम्ना ॥ भावप्रकाशः ।

² तुम्बुर्याद्यं चूर्णम् । तुम्बुर्यणिं चिलवणं यमानी पुष्कराह्वयम् । यवचाराभया द्विङ्गु विडङ्गानि समानि च । विहत् विभागिका ज्ञेया सूक्ष्मचूर्णानि कारयेत् । पिवेदुष्णेन तीयेन यवकाथेन वा पिवेत् । जयेत् सर्वाणि शूलानि गल्माधानोदराणि च ॥ शाईधरः ।

³ क्षीराशनं पित्तकृतेऽथ शीथे विहङ्गुचूर्णे विफलाकपायम् ॥ चक्रदत्तः ।

BATATAS PANICULATUS, *Choisy**Syn Convolvulus paniculatus, Roxb**Sans* विदारी, *Vidāri*, भूमिकुसाख, *Bhumikushmānda**Vern* Bhui kumra, *Beng*, Bilai kand, *Hind*

THE large tuberous root of this handsome climber is considered tonic, alterative, aphrodisiac, demulcent and lactagogue. The powdered root-stock is given with wine, for the purpose of increasing the secretion of milk¹. In the emaciation of children with debility and want of digestive power, the following diet is recommended. Take of *vidari*, wheat flour and barley equal parts, and make into a confection with milk, clarified butter, sugar and honey². Susruta gives several prescriptions for its use as an aphrodisiac. The simplest is as follows. Macerate the powder of the root in its own juice and administer with honey and clarified butter³. *Vidari* enters into the composition of several diuretic and demulcent mixtures. The following is an illustration.

*Mutrakrichchhantaka rasa*⁴. Take of *vidari*, fruits of *Tribulus terrestris*, (*golshura*), liquorice root, and flowers of *Mesua ferrea* (*nagakhesara*), equal parts and prepare a decoction with water. This decoction is given with the preparation of mercury called *rasasindura*, in scanty or acrid urine, to promote this secretion.

PHARBITIS NIL, *Choisy*. The seeds of this plant, called *kaladana* in the vernacular and now commonly used as a purgative.

¹ विदारीकन्द सुरया पिवेद्वा स्नानवर्द्धनम् ॥ चक्रदत्त ।

² यदा तु दुर्बली बाल. खादन्नपि च बर्जिमान् । विदारीकन्द गोधूम यवचूर्णं दृढतप्तम् । खादयेत्तदनु चीर शत समधुशर्करम् ॥ भावप्रकाश ।

³ चूर्णं विदार्या सुकृत स्वरसेनैव भावितम् । सर्पि. चीरयुत लोढा शत गच्छे-हराङ्गना ॥ सुश्रुत ।

⁴ सूत्रकृच्छ्रान्तकरस । विदारी गोक्षर यष्टी केशरश्च सम पचेत् । तत्-कषाय पिवेत् चीरै रसभक्षयुत पुन. । सूत्रकृच्छ्रहर ख्यात सप्ताहात् पित्तसम्भवम् ॥

रसेन्द्रसारसयह ।

all over India, were unknown to the ancient Hindus There is no name for them in Sanskrit

ARGYREIA SPECIOSA, Sweet

Syn Lettsonia nervosa, Roxb

Sans बड़दारक, Vriddharaka Vern Bytashá, Beng.

THE root of this plant is regarded as alterative, tonic and useful in rheumatic affections, and diseases of the nervous system As an alterative and nervine tonic it is prescribed in the following manner. The powdered root is soaked, seven times during seven days, in the juice of the tubers of *Asparagus racemosus* (*satamul*) and dried The resulting powder is given in doses of a quarter to half a toli, with clarified butter, for about a month It is said to improve the intellect, strengthen the body and prevent the effects of age¹ In synovitis the powdered root is given with milk²

*Ajamodadi churna*³ Take of *ajowan*, *bahrang*, rock salt, plum-bago root, *Cidrus decodara*, long pepper root, long pepper, black pepper and dill seeds each two tolas, chebulic myrobian ten tolis, root of *Argyria speciosa* twenty tolas, ginger twenty tolas, powder and mix Dose, about two drachms with treacle This preparation is said to be useful in rheumatic affections and hemiplegia

¹ बड़दारकमूलानि श्लक्ष्णचूर्णानि कारयेत् । शतावर्था रसेनैव समरावाणि भावयेत् ।
अचमावन्तु तच्चूर्णं सर्पिषा सह सेवनात् । मासमावोपयोगेन मतिमान् जायते नरः ।
मेधावो मृतिमाथेव वलिपलितवर्जितः ॥ चक्रदत्तः ।

² गुग्गुलु क्रोष्टुशीर्षे तु गुडुचोत्रिकलाभसा । चीरेणैररुतैल वा पिवेदा बड़
दारकम् ॥ भावप्रकाशः ।

³ अजमोदाया चूर्णम् । अजमोदा विडङ्गानि सेम्बव देवदारु च । चिवक पिप्पलीमुन
शतपुष्पा च पिप्पली । सरिचक्षेति कर्पाश प्रत्येक कारयेद् गुडम् । कर्पाशु पञ्च पथ्याया
दश सुवृद्धदारकात् । नागराश्च दशैव मुः सर्वाण्येकत्र चूर्णयेत् । पिवेत् कोणजलनेव
चूर्णञ्च गुडसंश्लिप्तम् । भक्षयेद्धवा सम्यक् पर शययुनाशनम् । आसवातरुज
हन्ति सार्द्धपीडा च रक्त्रसीम् । कटिष्ठगुदस्थाश्च जङ्घयोश्च रुजा जयेत् । तूनी प्रतूज
विश्वाची कफघातामयान् जयेत् ॥ शार्ङ्गधरः ।

NAT ORDER SOLANACEÆ.

DATURA ALBA, *Rumph and FASTUOSA, Linn**Sans धूतूर, Dhustura, उन्मत्त, Unmatta,**Vern Dhuturá, Hind and Beng*

SANSKRIT writers do not make any distinction in the properties of the two varieties of *Datura*, and in practice both are indiscriminately used. Sometimes the white flowered variety is specified, as for example in a prescription for insanity, quoted below. *Dhaturá* leaves are used in smoking by debauched devotees and others accustomed to the use of *ganja*. The seeds are added to the preparations of *bháng* (leaves of *Cannabis sativa*) used by natives, for increasing their intoxicating powers. The use of the powdered seeds in sweet-meats, curry powder, etc., for the purpose of stupefying travellers and then robbing them, is well known.

The seeds, leaves and roots are all used in medicine. They are considered useful in insanity, fever with catarrhal and cerebral complications, diarrhoea, skin diseases, lice, etc.

*Svalpajvaránkusa*¹ Take of mercury, sulphur, aconite, ginger, long pepper and black pepper, each one part, *dhaturá* seeds two parts, rub them together with lemon juice and make into four-grain pills. These pills are used in fever attended with catarrh or cough. Several other preparations of composition similar to the above, are in use under the names of *Nava jvaránkusa*, *Kalari*, *Jvarankusa*, etc.

The root of *Datura alba* (*svetonmatta*) is boiled in milk and this milk is administered with the addition of clarified butter and treacle in insanity². A metallic preparation called *Unmadankura rasa* and composed of the sulphides of mercury and copper together with a number of other substances and *dhaturá* seeds, is also used.

¹ रस गन्ध विषस्यैव प्रत्येक समभागिकम् । द्विभाग धूर्तवीजञ्च त्रिकटु त्वङ्ग-
भागिकम् । जम्बीराणां रसैर्मध्ये वटी गुञ्जाद्वयप्रभा । कथाचूर्णं पिवेदाय वात-
श्लेष्मज्वर जयेत् ॥ रसेन्द्रसारसग्रह ।

² श्वेतोन्मत्तोत्तरदिङ्मूलसिद्धं पायस । गुडायसयुतो हन्ति सर्वोन्मादान्
दोषजान् ॥ चक्रदत्त ।

in this disease The fresh juice of the leaves alone, or mixed with opium, is a common domestic application to inflamed parts

In inflammation of the breasts, a paste composed of turmeric and *dhatu* a fruits is recommended to be applied ¹ An oil prepared in the usual manner with the paste and juice of *dhatura* leaves, is applied to the head for destroying lice ² An oil prepared by boiling *dhatura* seeds, and sesamum oil, with an alkaline water made from the ashes of *Colocasia Indica* (*mānaka*), is used in psoriasis ³

In the Bengal Dispensatory (page 469) it is stated that "we are indebted to the native practitioners of India for a method of using stramonium in spasmodic asthma, which is certainly found of great benefit in numerous cases We allude to the practice of smoking the leaves or dried stems" The smoking of *dhatura* leaves is prescribed at present both by English and native practitioners in spasmodic asthma, but I have not met with any written prescription for it in Sanskrit or vernacular medical works, nor does the Taleef Shereef allude to the practice as known to the Mussulman hakims It would seem therefore that this use of the drug is of recent origin

SOLANUM XANTHOCARPUM, VAR JACQUINII, Schrad.

Syn *Solanum Jacquini*, Linn

Sans कण्टकारी, *Kantakari*, निदिग्धिका, *Nidigdhikā*

Vern *Kantakari*, Beng *Katchi*, *Katari*, *Hini*

THE root of *Solanum Jacquini* is much esteemed as an expectorant and is used in cough, asthma, catarrhal fever and pain in the chest It is an ingredient of *dasamula* (see *Desmodium gangeticum*), and is thus largely used in a great variety of diseases The fruits are said to possess properties similar to those of the roots and are eaten as a vegetable.

¹ निशाकनकफलाभ्यां लेपश्चापि स्नानार्तिहा ॥

चक्रदत्त. ।

² धत्तुरपत्रकण्ठकेन तद्गुणेनैव पाचितम् । तैलसम्पङ्गमादेन यूक्ता नाशयति क्षणात् ॥

भावप्रकाश ।

³ उन्मत्तकस्य बीजेन माणकक्षारवारिणा । कटुतैलं विपक्वत्वं शीघ्रं हन्यादि-
पादिकाम् ॥

चक्रदत्त. ।

Dr W C Mookerjee, says "Kantakarī is an invaluable medicine for Dropsy as a sequela of the advanced stage of Fever when all other modes of treatment fail. It is said by him to be a powerful diuretic and useful in chronic, violent and low fever, dropsy or general anasarca, low vitality of the general system, enlargement of liver and spleen. It is combined with kurchi in anasarca with Dysentery"

Report of Dispensing, 1878

Kantakārī is used in medicine in various forms, such as decoction, electuary, *ghṛita*, etc. A decoction of the root is given with the addition of long pepper and honey, in cough and catarrh, and with rock salt and assafoetida in spasmodic cough¹. Several compound decoctions made along with other expectorant and demulcent drugs are in use. The following is an example. Take of *kantakārī*, root of *Justicia Adhatoda* (*vāsaka*), pulse of *Dolichos uniflorus* (*kulattha*) and ginger, equal parts, in all two tolas, prepare a decoction in the usual way and administer, with the addition of *pachak* root, in cough with difficult breathing².

*Kantakāryavaleha*³ or electuary of *Solanum Jacquinii*. Take of *kantakarī* root twelve seers and a half, water sixty-four seers, boil till reduced to one fourth and strain. Boil the strained decoction till reduced to the consistence of a fluid extract, and add to it the following substances in fine powder, namely, *gulanča*, *Piper Chaba* (*chavya*), plumbago root, tubers of *Cyperus rotundus* (*mustaka*), *Rhus succedanea*, (*karkāṇa sringī*), long pepper, black pepper, ginger, *Alhagi Maurorum* (*yaśa*), *Clerodendron Siphonanthus* (*vārgī*), *Vanda Roxburghii*, (*rāsna*) and zedoary root, each eight tolas, sugar two seers and a half, sesamum oil and clarified butter each one seer, and boil together till reduced to the proper consistence. Lastly

¹ कण्टकारीकृत, काथ सङ्गण सर्व्वकासहा ॥

चक्रदत्त ।

² सुद्रा कुलथ वासाभिनागरेण च साधित । काथ पौकरचूर्णाञ्च आसकासौ निवारयेत् ॥

शार्ङ्गधर ।

³ कण्टकार्यवलेह^१ । कण्टकारीतुला नीरद्रीणे पक्ता कषायकम् । पादशेष गृहीत्वा च तत्र चूर्णानि दापयेत् । पृथक्पलाशान्येतानि गुडूची चव्यचित्रका । सुप्त कर्कटशङ्खी च चूर्णय धन्वयासक । भार्गी राक्ता शटी चैव । शर्करापलविशसि । प्रत्यक् च पलान्वष्टी प्रदद्याद् घृततैलयो^२ । पक्ता लेहत्वमानोय शीते नधु पलाष्टकम् । चतुर्भाजं तु गाढीय्या पिप्पली च चतुःपलम् । लिङ्गा निदध्यात् सुदृढे मृष्टये भाजने शुभे । लिङ्गोऽयं हन्ति हिक्कात्तिकासञ्चासानशपत ॥

भावप्रकाश ।

add honey one seer, bamboo manna and long pepper in fine powder, each half a seer. This electuary is given in various sorts of cough.

*Kantakāri ghrita*¹ This is prepared in the usual proportions with the fresh juice of *kantakari*, clarified butter and the following substances in the form of a paste, namely, *Vanda Roxburghii* (*rasa*), *Sida cordifolia*, (*bālā*) ginger, long pepper, black pepper and the fruits of *Tribulus terrestris* (*gokshura*) It is used in the same cases as the electuary

SOLANUM NIGRUM, *Linn Sans* काकमाची, *Kākamachi*, *Vern Kākmachi*, *Beng Makoy Hind* The berries of this plant are considered tonic, diuretic and useful in anasarca and heart disease For the mode of administering them in heart disease, see *Hridayārnava rasa*, (page 66)

SOLANUM INDICUM, *Linn*

Sans वृहती, *Vrihati* भण्टाकी, *Bhantāki*

Vern Byākura, *Beng* Barhanta, *Hind*

THE root of *Solanum Indicum* is an ingredient of *dasamula* (see *Desmodium gangeticum*) and is thus used in a great variety of diseases It is regarded as expectorant and useful in cough and catarrhal affections The following is an example of a compound decoction containing this drug Take of *Solanum Indicum* (*vrihati*), *Solanum Jacquini* (*kantakāri*), *Sida cordifolia* (*bala*), *Justicia Adhatoda* (*vāsaka*) and raisins, equal parts and prepare a decoction in the usual way This decoction is given in bronchitis with fever²

WITHANIA SOMNIFERA, *Don*

Syn *Physalis flexuosa*, *Roxb*

Sans अश्वगन्धा, *Asvagandha Vern* *Asvagandha*, *Beng* *Asgand*, *Hind*

THE root of this plant is long, smooth, rounded, whitish brown externally and of a fine white colour internally It is said that the

¹ कण्टकारीघृतम् । घृत राक्षा बला व्योष श्वदष्टा कल्कपाचितम् । कण्टकारीरसे सर्पि पञ्चकासनिम्बम् ॥ चक्रदत्त ।

² बला विवृहती वासा द्राक्षाभि कथित जलम् । पित्तकासापह पेय शर्करा मधु-योजितम् ॥ चक्रदत्त ।

root smells like a horse whence the Sanskrit name *asvagandhā*. The specimen in my possession however has scarcely any odour or taste. It is regarded as tonic, alterative and aphrodisiac and is used in consumption, emaciation of children, debility from old age, rheumatism, etc.

In consumption a decoction of *asvagandhā* root and long pepper is given with the addition of clarified butter and honey¹. For improving the nutrition of weakly children, the root reduced to a paste, is recommended to be taken with milk and clarified butter for a fortnight².

*Asvagandha ghrīta*³. Take of the decoction of *asvagandhā* root one part, milk ten parts, clarified butter one part, boil them together and prepare a *ghrīta*. It is said to promote the nutrition and strength of children.

In rheumatism, a *ghrīta* prepared with a decoction and paste of the root, is used internally and an oil prepared with a decoction of the root and a number of aromatic substances in the form of a paste, is used externally.

About half a drachm of *asvagandhā* root, taken with milk or clarified butter is said to act as an aphrodisiac and restorative to old men. *Asvagandha* enters into the composition of several medicines intended for use as aphrodisiacs⁴.

HYOSCYAMUS NIGER, Linn. The seeds of *Hyoscyamus niger* are used in Hindu medicine under the name of *khoraśam yaman*. They are considered stimulant or heating, narcotic, astringent¹ and digestive, and are used in combination with other

¹ कृष्णाद्राचासितालिङ्गं, चयद्वा चौद्रतैलवान्। मधुसर्पिर्युतो वाञ्छगन्धाकृष्णासितोद्भवः ॥
चक्रदत्तः ।

² पीताञ्चगन्धापयसार्द्धमास घृतेन तैलेन सुखास्वना वा । कृषस्य पुष्टिं वपुसो विधत्ते
बालस्य शस्यस्य यथास्व, वृष्टिः ॥
चक्रदत्तः ।

³ अञ्चगन्धाघृतम् । पादकरकैः अञ्चगन्धाया चीरे दशगुणे पचिन्तु । घृतं पीतं कुमारान्ता
पुष्टिकृद्बलवर्धनम् ॥
चक्रदत्तः ।

⁴ अञ्चगन्धादिचूर्णम् । अञ्चगन्धा दशपला तन्मादौ बृहदारकः । चूर्णोक्त्योभय
विद्वान् घृतभाण्डे निधापयेत् । कर्षकं पयसा पीत्वा नारीभिर्नैव दृष्यति । अङ्गत्वा प्रमदा
मूयादलीपलितवर्जितः ॥
शार्ङ्गधरः ।

medicines of their class. The seeds of *Hyoscyamus Niger* are used as anthelmintics ¹

NICOTIANA TABACUM, *Lin.* According to Royle, the tobacco plant was introduced into India (A.D. 1605) towards the end of the reign of Jalaludeen Akbar. It is not described even in the latest Sanskrit medical works such as the *Bhavaaprakasa* or *Rija Vallava*. The *Sabdakalpadrūma* mentions it under the name of ताम्रकूट, *Tamrakuta*, and quotes as authority for the use of the word, a passage from the *Kulārnava Tantra* where it is stated to be one of eight intoxicating agents

CAPSICUM FRUTESCENS, *Lin.* and MINIMUM, *Royle* have no Sanskrit name. Although they are now cultivated all over India and form an essential ingredient of all curry powders, they are not mentioned in any Sanskrit medical work and are evidently of recent introduction into this country

NAT ORDER SCROPHULARIACEÆ

PICRORRHIZA KURROA, *Royle*

Sans कटुका, *Katuka*, कटुरोहिणी, *Katuronim Vern* Katki, *H. B.*

THE root of *Picrorrhiza Kurroa* is described as bitter, acrid and stomachic and in larger doses a moderate cathartic. It is used in fever and dyspepsia and as an ingredient of various purgative medicines. The *katki* has been found in Madras a useful medicine and proposed for use in Fever and Dyspepsia. About two drachms of the powdered root given with sugar and warm water, is said to act as a mild purgative ². In bilious fever the following decoction is highly recommended. Take of *katuki* root, liquorice, raisins, and *um* bark, half a tola each, water thirty-two tolas, boil till reduced to one-fourth ³

¹ पारपीया यमानी पीता पथुषित वारिणा प्रातः । गुडपूर्वा क्रिमिजात कीदृगत पातयत्याशु । गुडपूर्वा प्रथमतो गुड सनाक् भक्षयित्वा विलम्ब कृत्वा पातय्या ॥

भैषज्यरत्नावली ।

² सशर्करामक्षमात्वा कटुकासुष्णवारिणा । पीला ज्वर जयेज्जन्तुः कफपित्तसमुद्भवम् ॥

चक्रदत्तः ।

³ मृद्वीका मधुक् निम्बः कटुका रोहिणी समा । अवश्यावस्थित पाक्यमेतन् पित्त-ज्वरापहम् ॥

चक्रदत्तः ।

The following is an example of a powder containing *katuki* root, used in dyspepsia. Take of *katuki*, *Acorus Calamus* (*vachā*), chebulic myrobalans and plumbago root, equal parts, powder and mix. Dose, about a drachm with cow's urine in dyspepsia with severe pain.

HERPESTIS MONNIERIA, *H B K*

Syn Gratiola Monnueria, Roxb

Sans ब्रह्मी, Brahmi, मण्डूकी, Manduki, Vern Brahmi, Beng Hind

THE herb used by the native physicians of Calcutta under the name of *brahmi* is the *Herpestis Monnueria*. Roxburgh however gives *brahmi* and one of its synonyms *somalatā* as the Sanskrit for *Ruta graveolens*. This discrepancy induced me to get specimens of the plant from different parties, but everywhere I got the *Herpestis Monnueria* under the name of *brahmi*. This plant is considered a nervine tonic, useful in insanity, epilepsy and hoarseness. Half a tola of the fresh juice of the leaves, with two scruples of *pachak* root and honey, is recommended to be given in insanity. The leaves fried in clarified butter are taken to relieve hoarseness.¹

A powder composed of equal parts of *brahmi*, *Acorus Calamus* (*vachā*), chebulic myrobalan, root of *Justicia Adhatoda* (*vasaka*) and long pepper, is given with honey in the hoarseness of phthisis.² Several *ghritas* are prepared with the juice of *brahmi* leaves and various other substances in the form of paste. They are used in insanity, epilepsy and hoarseness. The following is an example.

*Brahmi ghrita*³. Take of old clarified butter four seers, fresh juice of *brahmi* four seers, *Acorus Calamus* (*vachā*), *pachak* root, and the root of *Canscora decussata* (*sankhapushpi*), equal parts, in all thirty two tolas, in the form of a paste and boil them together till the watery portion is evaporated.

¹ See note 1 page 202

² ब्रह्मी वचाभया वासा पिप्पली मधु सयुता । अथ प्रयोगात् सप्ताहत्किन्नरैः सह गीयते ॥ भावप्रकाशः ।

³ ब्रह्मीघृतम् । ब्रह्मीरसे वचा कुष्ठ शङ्खपुष्पीभिरेव च । पुराणं मेहमुन्मादग्रहापसारणं घृतम् ॥ चक्रदत्तः ।

NAT ORDER ACANIACEÆ

JUSTICIA ADHATODA, Roxb

Syn *Adhatoda Vasica*, Nees

Sans वासक, *Vasaka*, चटरप, *Atarusha* Veri Bakas, B Arushat, H

This is a bushy shrub common in most parts of India and used in making fences. The leaves and roots of this plant are considered expectorant and antispasmodic and are much used in a variety of forms in cough, consumption, catarrhal fever and asthma. This medicine was considered so serviceable in phthisis that it was said no man suffering from this disease need despair as long as the *vasaka* plant exists.

The fresh juice or decoction of the leaves in doses of one tola, is given with the addition of honey and long pepper in cough. A decoction of *vasaka* root, chebulic myroblan and raisins is used in the same cases. Another compound decoction much used in fever with cough, is as follows. Take of *vasaka* root, *gulanha*, and the root of *Solanum Jacquini* (*lantakari*) in equal parts, two tolas in all and prepare a decoction in the usual way. This is given with the addition of honey¹. A *ghrita* is prepared with clarified butter, a decoction of the plant and a paste of the root taken in the usual proportions and is used in phthisis.

*Vāsavaleha*² or electuary of *vasaka*. Take of the juice of *vasaka* leaves four seers, white sugar one seer, long pepper sixteen tolas, clarified butter sixteen tolas, boil them together till reduced to the consistence of an extract. When cool add honey one seer,

¹ केवली वासककाय पीत चोट्रेण नाशयेत् । वासकस्वरस पेयो मधुना रक्तपित्तजित् । वासा द्राक्षाभया काय पीत सखीद्रशर्कर । निहन्ति रक्तपित्ताग्निं श्वासकासञ्च दारुणम् । वासा चुद्रामृता काय चोट्रेण ज्वरकासहा ॥

शार्ङ्गधर ।

² वासावलेहः । वासकस्य रसप्रस्थं भाणिका सितशर्करा । पिप्पल्या द्विपल तावत् सर्पिषश्च शनै पचेत् । तस्मिन् लेह्यमायाति शीते खीद्रपलाटकम् । दलावतारयेद्देवो लीढो लेह्योऽयमुत्तम । हन्येव राजयक्षाण कास श्वासञ्च दारुणम् । पार्श्वशूल च हृच्छूल रक्तपित्त ज्वर तथा ॥

भावप्रकाश ।

and stir with a ladle till intimately mixed Dose, one to two tolás in phthisis, cough with pain in the sides, hæmoptysis and asthma

Vasachandandī taila ¹ Take of *vāsaka* plant, twelve seers and a half, water sixty-four seers, boil till reduced to one-fourth Take of lac eight seers, water sixty-four seers, 'boil down to sixteen seers Take of red sandal wood, *gulanča*, root of *Clerodendron Siphonanthus* (*brahmayashū*), the ten drugs called *dasamula* and *Solanum Jacquinu* (*nidigdhikā*), each two seers and a half, water sixty-four seers, boil down to sixteen seers To these decoctions, add of whey and prepared sesamum oil sixteen seers each and the following substances in the form of a paste, namely, red sandal wood, liquorice, wood of *Berberis Asiatica*, long pepper, black pepper, ginger, turmeric, *pachak* root, emblic myrobalans, *tejapatra* leaves, wood of *Cedrus Deodara*, cinnamon, and cardamom, seeds called *renuka*, pouch of civet cat, root of *Withania somnifera* (*asvagandhā*), *Pæderia fatida* (*prasaram*), *Vanda Roxburghii* (*rāsna*), *saileya* (a sort of lichen), zedoary root, and the fruit of *Aglaia Roxburghiana* (*priangu*), each eight tolās, and boil them together in the usual way This oil is rubbed on the body in affections of the chest and especially in phthisis

HYGROPHILA SPINOSA, *T Anders Syn Asteracantha longifolia*, *Nees Ruellia longifolia*, *Roxb Sans कीकिलाक्ष, Kokilāksha*, इक्षुगन्धा, *Ikshugandha Vern Kulākhara*, *Beng Talmakhana Hind* This little annual is met with in low places all over the country

¹ वृद्धत् वासाचन्दनादि तैलम् । चन्दन रेणुका पूतिर्हृद्यगन्धा प्रसारणी । विसृगन्धिकाणामूल नागकेशरमेव च । मेदि वे च विकटुक राक्षा मधुकशैलज । शटौ कुष्ठ देवदारु वनिता च विभीतक । एतेषा पलिकैभागै पचैतैलाढक भिषक् । वासकस्य तुलाक्वाथ जलद्रोणे विपाचयेत् । लाचारसाढकञ्चैव तथैव दधिमस्तुक । चन्दनञ्चाग्न्या भार्गो दशमूल निदिग्धिका । एतेषा विंशतिपल जलद्रोणे विपाचयेत् । पादशेषे स्थिते क्वाथ तैल तेनैव साधयेत् । कासान् ज्वरान् रक्तपित्त पाण्डुरोगं हलीमक । कामलाञ्च चतर्चीण राजयक्षाणमेव च । आसान् पञ्चविध हन्ति बलवर्णाभिपुष्टिक् । तैल वासाचन्दनादि वृद्धदेवत् प्रकीर्तितम् ॥
भैषज्यरत्नावली ।

The leaves are described as cooling and useful in jaundice and anasarca. They are used as a pot herb. The root is considered cooling, bitter, tonic and diuretic, and is used in rheumatism, urinary affections and anasarca. The ashes of the plant are also used as a diuretic in dropsy ¹

ANDROGRAPHIS PANICULATA, *Nes* This bitter shrub is well-known in Bengal under the name of *kālmeg* and is the principal ingredient of a domestic medicine for infants called *Alui*. There is some doubt regarding its Sanskrit name. A plant called *yavatiktā* with synonyms of *mohatiktā*, *sankhūn*, etc., is said by some to mean this shrub but the term *mohatiktā* when occurring in Sanskrit prescriptions is usually interpreted as *Melia sempervirens*, *Sw* and *yavatiktā* has not been noted by me as having occurred in any prescription, so that I am inclined to think *Andrographis paniculata* was not used in Sanskrit medicine. The *alui* above referred to is made of the expressed juice of the leaves with the addition of powdered cardamoms, cloves, cinnamon etc., and is given to infants for the relief of griping, irregular stools and loss of appetite.

NAT ORDER SESAMEÆ

SESAMUM INDICUM, *Linn*

Sans तिल, *Tila*, स्नेहफल, *Snehaphala* *Vern* *Til*, *Beng* and *Hind*

THIS plant is extensively cultivated in India for the sake of the seeds and their expressed oil, both of which articles are in great demand for various economic, religious and medicinal purposes. The word *taila*, the Sanskrit for oil, is derived from *tila*, it would therefore seem, that sesamum oil, was one of the first, if not the first oil manufactured from oil-seeds by the ancient Hindus. The *Bhāvaprakāśa* describes three varieties of *til* seeds, namely, black, white and red. Of these the black is regarded as the best suited for medicinal use. It yields also

¹ शोधयन् कोकिलाक्षस भण मूत्रेण वाम्भसा ॥

the largest quantity of oil White *til* is of intermediate quality *Til* of red or other colours is said to be inferior and unfit for medicinal use

Sesamum seeds are used as an article of diet, being made into confectionary with sugar, or ground into meal They form an essential article of certain religious ceremonies of the Hindus, and have therefore received the names of *homadhanya* or the sacrificial grain, *pitritarpana* or the grain that is offered as an oblation to deceased ancestors, etc Sesamum oil forms the basis of most of the fragrant or scented oils used by the natives forunction before bathing and of medicated oils prepared with various vegetable drugs It is preferred for these purposes from the circumstance of its being little liable to turn rancid or thick, and from its possessing no strong taste or odour of its own

Sesamum seeds are considered emollient, nourishing, tonic, diuretic, and lactagogue They are said to be especially serviceable in piles, by regulating the bowels and removing constipation Sesamum seeds ground to a paste with water are given with butter in bleeding piles¹ Sweetmeats made of the seeds (*Til* seeds 4 tolas and sugar 1 toli) are also beneficial in this disease A poultice made of the seeds is applied to ulcers² Both the seeds and the oil are used as demulcents in dysentery and urinary diseases in combination with other medicines of their class

NAT ORDER VERBENACEÆ

VITEX NEGUNDO, Linn

Sans निर्गुण्डी, *Nirgundi*, सिन्धुवार, *Sindhuvāra*

Vern Nisinda, *Beng* Nisinda, *Sambhalu*, *Hind*

SANSKRIT writers mention two varieties of *nirgundi* That with pale blue flowers is called *sindhuvāra* (*Vitex trifolia*) and that with blue flowers is called *nirgundi* The properties of both are said to be identical, but the latter is generally used in medicine The root of *Vitex Negundo* is considered tonic, febrifuge and expectorant

¹ नवनीततिलै कल्की जित रक्ताशसा स्मृत ॥

शाङ्गधर ।

² कल्क सरीषण कायस्त्रिलाना मधुकान्वित ॥

चक्रदत्त ।

The leaves are aromatic and regarded as tonic and vermifuge Their juice is much used for soaking various metallic powders, before making the latter into pills

A decoction of *nirgundi* leaves is given with the addition of long pepper in catarrhal fever with heaviness of head and dullness of hearing¹ A pillow stuffed with the leaves of *nirgundi* is placed under the head for relief of headache The juice of the leaves is said to remove foetid discharges and worms from ulcers An oil prepared with the juice of the leaves is applied to sinuses and scrofulous sores²

GMELINA ARBOREA, Linn

Sans गम्भारी, *Gambhari*, श्रीपर्णी, *Sriparni*, कास्मरी, *Kasmary*

Vern Gamari, *Beng.* Gambhār, *Hind*

THE root of this plant is described as bitter, tonic, stomachic, laxative, and useful in fever, indigestion, anasarca etc It is an ingredient of *dasamula* (see *Dismodium gangeticum*), and is thus much used in a variety of diseases Bangasena says that *gambhari* root taken with liquorice, honey and sugar increases the secretion of milk The fruits of *Gmelina arborea* are sweetish bitter and cooling, they enter into the composition of several cooling or refrigerent decoctions for fever and burning of the body The following is an example Take of the fruits of *Gmelina arborea*, *Grewia Asiatica* (*parushaka*), liquorice root, red sandal wood, and the root of *Andropogon muricatum* (*ushra*), equal parts, in all two tolās, water thirty two tolās, and boil till reduced to one half This decoction is used as a drink in bilious fever³

¹ सिन्धुवारदलकाथ कणाद्य कफजे ज्वरे । जडयोश्च बल क्षीणे कर्णे च पिष्टिते पिवेत् ॥ भावप्रकाशः ।

² निर्गुण्डीतैलम् । समूलपत्रा निर्गुण्डी पीडयित्वा रसेन तु । तेन सिद्धं सम तैलं नाडीदुष्टव्रणप्रपङ्गम् । हितं पासापक्षीनान्तु पानाभ्यञ्जनं नावनैः । विविधेषु च स्फोटेषु तथा सर्व्वत्रयेषु च ॥ चक्रदत्तः ।

³ कास्मर्य्यं शर्करायुक्तं पिवेत् तृणार्द्धितो नरः । श्रीपर्णीचन्दनीशीरसमधूक परुषकम् । पानं पिचञ्चरं हन्यात् शारिवाद्यं सशर्करम् ॥ चक्रदत्तः ।

CLERODENDRON SIPHONANTHUS, *R Br Syn Siphonanthus Indica, Lam Sans ब्रह्मयष्टिका, Brahmayashṭikā, भार्गी, Bhargī Vern Bāmanhati, Beng Bhārangi, Hind* The root of *Clerodendron Siphonanthus* is considered useful in asthma, cough and scrofulous affections. The root beaten to a pulp is given with ginger and warm water in asthma¹. It enters into the composition of several compound decoctions for diseases of the lungs. A confection called *Bhargiguda* is prepared with a decoction of this root and the ten drugs called *dasamula*, chebulic myrobalan, treacle and the usual aromatic substances. It is used in asthma. An oil, prepared with a decoction and paste of the root of *Clerodendron Siphonanthus* in the usual proportions, is recommended for external application in the marasmus of children.

PREMNA SERRATIFOLIA, *Linn Syn Premna spinosa, Roxb Sans गनिकारिका, Ganikārikā, अग्निमथ्य, Agnimantha Vern Ganidri, Beng Arni, Hind* The root of *Premna spinosa* is described as bitter, stomachic and useful in fever, anasarca, urticaria, etc. The leaves are bitter and carminative. A soup made of the leaves is occasionally used as a stomachic and carminative. The root forms an ingredient of *dasamula* (see *Desmodium gangeticum*), and is thus largely used in a variety of affections.

The root rubbed into a paste with water is recommended to be taken with clarified butter in urticaria and roseola, for a week².

NAT ORDER LABIATÆ.

OCIMUM SANCTUM, *Linn*

Sans तुलसी, Tulasi, पर्णास, Parnasa Vern Tulsi, Beng Hind

SANSKRIT writers make two varieties of this plant (founded upon some difference in the colour of their leaves) namely, white

¹ हिक्काश्वासी पिवेद्भागी सविश्रामुष्णवारिणा । नागर वा चिता भार्गी सोवञ्जल-समन्वितम् ॥ चक्रदत्त, १

² अग्निमथ्यमव मूल पिष्ट पीतञ्च सर्पिषा । शीतपित्तो दहंकीठान् समाहादिव नाशयेत् ॥ चक्रदत्त, १

and black. The *Ocimum sanctum* is held sacred to Vishnu of the Hindu trinity, and is reared in every Hindu house where it is daily watered and worshipped by all the members of the family. The beads or rosaries used by orthodox natives for counting the number of recitations of their deity's name, are made of the stems of this plant.

The leaves are regarded as anti-catarrhal or expectorant and are used in catarrh, cough and pain in the sides. The juice of the leaves is given with the addition of black pepper in catarrhal fever.¹ It is often used as an adjunct to metallic preparations, which are rubbed with it into a thin paste and then licked up. The leaves enter into the composition of some compound decoctions for cough and affections of the chest. The following is an example. Take of the leaves of *Ocimum sanctum*, *gulantha*, ginger, root of *Clerodendron Siphonanthus*, (*bhargi*) and *Solanum Jacquini* (*kantakari*), equal parts and prepare a decoction in the usual way.² The dried leaves are used as snuff in ozæna. They also enter into the composition of some compound medicines used in this disease, as for example of an oil which is prepared with a paste of the leaves of *Ocimum sanctum*, roots of *Solanum Jacquini* (*kantakari*), *Baliospermum montanum* (*danti*), *Acorus Calamus* (*vacha*), *Moringa pterygosperma* (*sirgu*), long pepper, black pepper, and ginger.³

OCIMUM BASILICUM, Linn Syn *Ocimum pilosum*, Willd Sans वर्जर, *Varvara* Vern *Bābui tulsi* Beng. The seeds of this plant, called *rehan* in the vernacular, are demulcent and nourishing. Steeped in water they swell into a mucilaginous jelly which is taken with the addition of sugar in dysentery, gonorrhœa and cough.

¹ पीतो मरिचचूर्णेन तुलसीपत्रजो रसः । द्रोणपुष्परसीऽप्येव निहन्ति विषमज्वरान् ॥

शार्ङ्गधर ।

² अमृता नागर फल्ली व्याघ्री पर्णाश साधित क्वाथः । पीत सकणचूर्ण कासश्वासी क्षयन्त्यायुः ॥

चक्रदत्त ।

³ व्याघ्रीदन्तीवचाशिशुसुरसव्योषसेन्धवैः । पाचितं नादन तैलं पूतिनासागद जयेत् ॥

चक्रदत्त ।

NAT ORDER AMARANTACEÆ

AMARANTHUS SPINOSUS *Linn Sans* तण्डुलीय, *Tandulīya Vern Kantanatā, Beng Cholar, Hind* This thorny weed is considered light, cooling and a promoter of the alvine and urinary discharges Its root is said to be an efficacious medicine for menorrhagia, in which disease it is given with rasot and honey¹ It enters also into the composition of other medicines for this disease, as for example in the preparation called *Asoka ghrita*

ACHYRANTHES ASPERA, *Linn **

Sans अपामार्ग, *Apāmārga खरमञ्जरी, Kharamanjari Vern Apāng, Beng Latjira, churchura, Hind*

THIS troublesome weed is chiefly valued on account of its ashes which contain a large quantity of potash These are used in the preparation of alkaline medicines and caustic pastes, (see Alkaline ashes) The ashes mixed with orpiment are applied as a caustic to warts on the penis and other parts of the body

*Apamarga taila*² Take of sesamum oil four seers, the alkaline water prepared from the ashes of *Achyranthes aspera* sixteen seers, the ashes of the plant one seer, and boil them together in the usual way This oil is poured into the meatus in cases of noise in the ears and deafness

The weed itself is described as heating like fire, laxative and a promoter of secretions, it is used in combination with other medicines of its class in ascites and anasarca, (see *Cedrus Deodara*)

NAT ORDER NYCTAGINACEÆ

BOERHAAVIA DIFFUSA, *Linn*

Sans पुनर्नवा, *Punarṇava, शोथघ्नी, Sothaghnī Vern Svetapunarnaba, Beng Sant, Hind*

BOTH the red and white varieties of this plant are noticed by Sanskrit writers but the white is preferred for use Its root is

¹ रसाञ्जन तण्डुलकस्य मूलं चीडान्वितं तण्डुलतीयपीतम् । अष्टगदर सर्वभवं निहन्ति
द्वासञ्च भार्गी सह नागरेण ॥ भावप्रकाश ।

* The closely allied species *A. bidentata*, Bl is probably used as frequently as this G K

² अपामार्गचारतैलम् । अपामार्गचारजले तत्कृतकरकेन साधितं तिलजम् । अपहरति कर्णनादं वाघिर्व्यञ्चापि पूरणतः ॥ चक्रदत्त ।

regarded as laxative, diuretic and stomachic, it is used in jaundice, ascites, anasarca, scanty urine and internal inflammations. One of its Sanskrit synonyms, namely, *sothagui* means cure for dropsy. A decoction of *punarnava* root is recommended to be given with the addition of powdered *chirela* and ginger in anasarca¹. A compound decoction much used in this disease is prepared as follows

*Punarnavāśh'aka*² Take of *Punarnava* root, mīm bark, leaves of *Trichosanthes dioica* (*patola*), ginger, *Picrorrhiza Kurroa* (*katuki*), chebulic myrobalan, *gulantha*, and the wood of *Berberis Asiatica* (*dāruharidra*), quarter of a tola each, water thirty-two tolas, boil together till reduced to one-fourth. This decoction is given in general anasarca with ascites, cough, jaundice, difficult breathing, etc. An oil, prepared with a decoction of the root and a number of the usual aromatics in the form of a paste, is rubbed on the body in general anasarca complicated with jaundice. It is called *Punarnava taila*³.

The Bhuvaṇprakaśa gives an electuary under the name of *Punarnavavaleha*. It is prepared with a decoction of the root of *Boerhaavia diffusa* and a number of other ingredients, and is used in strangury or scanty urine.

NAT ORDER LAURACEÆ

CINNAMOMUM CAMPHORA, *Nees et Ebermaier*

Sans कर्पूर, *Karpura*, चन्द्राह्न, *Chandráhna*

Vern Kápur, *Hind.* Karpur *Beng*

Two varieties of camphor are mentioned by Sanskrit writers, namely, *pakva* and *apakva*, that is prepared with the aid of heat

¹ भूनिस्व विश्वकटक जग्ध्वा पेय, पुनर्नवाकायः । अपहरति नियतमाशु शीघ्रं सर्वोद्भजं चृणाम् ॥

² पुनर्नवाष्टक¹ । पुनर्नवानिस्वपटोलशुष्कीतिक्तामृतादाव्प्रभयाकषाय । सर्वोद्भ-
शीथोदर कासशूलश्वासान्वित पाण्डुगद निहन्ति ॥ चक्रदत्त ।

³ पुनर्नवार्तिलम् । पुनर्नवापलशत जलद्वीणे विपाचयेत् । तेन पादावशेषेण तैल-
प्रस्थं विपाचयेत् । त्रिकटु त्रिफला शङ्खी धन्याक कटुफल तथा । शटी दाह प्र क्षु-
देवदारु हरेणुभिः । कुष्ठ पुनर्नवाधान्य यमानी कारवी तथा । एला त्वच पद्मकक्ष पत्र

and without it The latter is considered superior to the former It would seem from the above description that by the term *apakva karpura*, was probably meant the camphor obtained in Borneo from the trunk of *Dryobalanops aromatica*, (*Shorea Camphorifera*, Roxb) and by the term *pakava karpura*, the China camphor obtained by sublimation from the wood of *Cinnamomum Camphora*

The *Rajamughantu* describes an oil of camphor under the name of *karpura taila* It is said to be useful in rheumatism and in giving firmness to loose teeth This oil is not recognized or used by the native practitioners of the present day, but it most probably meant the camphor oil or liquid camphor obtained by making incisions on the Borneo camphor tree

Camphor is regarded as carminative, stimulant and aphrodisiac, it is used in fever, diarrhoea, impotence, cough, eye diseases, etc It is also much used in the preparation of medicinal oils for imparting fragrance to them, singly as well as in combination with other aromatic substances Camphor enters into the composition of numerous medicines for the diseases mentioned above. The following is an illustration

Karpura rasa ¹ Take of cinnabar, opium, camphor, tubers of *Cyperus rotundus* (*mustaka*), *indrajaya* seeds and nutmegs, equal parts, powder the ingredients, and make into four grain pills with water These pills are used in diarrhoea

Camphor, rubbed with the milky juice of *Ficus Bengalensis*, is recommended to be applied to opacities on the cornea It enters also into composition of several collyria ² A small tent made with

नागरकेशरम् । एषाञ्च कापिकै कक्षकै पेषयित्वा विनिचिपेत् । कामलापाण्डुरोगञ्च
हलीमकमयापि वा । श्लीहानसुदरञ्चैव जोरुण्वरमपीहति । तैल पुननवानाम मल-
व्याधीन्निवर्त्तति ॥ सारकौमुदी ।

¹ कर्पूररस । हिङ्गुलसहिफेणञ्च सुस्तकेन्द्रियव तथा । जातीफलञ्च कर्पूर सर्व
समर्थ यवत । जलीन वटिका काय्या हिङ्गुजापरिमाणत । ज्वरातीसारिणि चैव तथाती-
साररोगिणे । ग्रहणीषट्प्रकारे च रक्तातीसारउल्लेगे । अत्र केचित् टङ्गणसम्येकभाग-
मिच्छन्ति ॥ रसरत्नावली ।

² वटक्षीरेण सयुक्तं क्षुण्णं कर्पूरज रजः । क्षिप्रमञ्जनती हन्ति शुक्रञ्चापि घनोन्नतम् ॥

चक्रदत्त ।

camphor is introduced into the urethra for the relief of irritability of the bladder and frequent micturition ¹

CINNAMOMUM ZEYLANICUM, *Breyer Sans सुन्तक, Gudatvak* Cinnamon is largely used as an aromatic adjunct in compound prescriptions. A combination of cinnamon, cardamoms and *tejapatra* leaves, passes by the name of *trijataka*, these three aromatics being often used together.

CINNAMOMUM TAMALA, *Nees* and other species, furnish the leaves called *tejapatra* in Sanskrit, and *tejpāt* in the vernacular. They are an essential ingredient of Indian cookery. For remarks on their uses in medicine see *Cinnamomum Zeylanicum*.

NAT ORDER MYRISTICÆ

MYRISTICA OFFICINALIS, *Linn* Both nutmegs and mace enter into the composition of numerous medicines as aromatic adjuncts, but there is no peculiarity in their use that need special consideration here. An infusion of nutmegs is recommended by several writers as a serviceable drink in the thirst of cholera patients ²

NAT ORDER SANTALÆ

SANTALUM ALBUM, *Linn*

Sans चन्दन, *Chandana*, श्रीखण्ड, *Srikhand*

Vern Chandan, *Beng* Saphed chandan, *Hind*

SANSKRIT writers describe several varieties of *chandana* and some include the woods of *Pterocarpus Santalinus* (*raktachandana*) and *Cesalpinia Sappan* (*pattanga*) under this common denomination. Excluding these last, two varieties of sandal wood are generally recognised, namely, *srikhand* or white sandal wood

¹ मेहनस्याथ दीनेर्वा सुखस्याभ्यन्तरे शने । घनसारयुता वर्चिन धारयेन्मूत्रनियन्त्रि ॥

भावप्रकाश ।

² पिपासायामनुत्क्रेशे खवङ्गस्यास्तु शस्यते । जातीफलस्य वा शीत शत भद्रघनस्य वा ॥

चक्रदत्त ।

and *pitachandana* or the yellow variety These varieties are founded on the difference in the depth of colour in the heart-wood and not on any specific difference in the plants The use of sandal wood in carving, and the elegant and fragrant articles made from it, are too well known to need description here The Hindus use an emulsion of the wood in the worship of their idols and for painting or anointing their bodies after bathing Rich natives sometimes use sandal wood for burning their dead relatives Rich or poor, all add at least one piece of the wood to the funeral pile

The essential oil of *chandana* (*chua chandana*) obtained by distillation from the heart-wood and roots, is of a pale yellow colour and has a peculiar fragrant smell best appreciated by rubbing a few drops of it on the hand It is much used as a perfume by the Hindus both for themselves and for their idols In Orissa it is a practice with the better classes to rub a little sandal oil in the spices which they take with their betel-leaf

Sandal wood is described as bitter, cooling, astringent, and useful in biliousness, vomiting, fever, thirst and heat of body An emulsion of the wood is used as a cooling application to the skin in erysipelas, prurigo and sudamina¹ Two tolas of the watery emulsion of sandal wood, with the addition of sugar, honey and rice-water, is given to check gastric irritability and dysentery, and to relieve thirst and heat of body²

NAT ORDER EUPHORBIACEÆ.

PHYLLANTHUS EMBLICA, Linn

Syn Emblica officinalis, Gaertn

Sans आमलकी, Amalaki, धात्रि, Dhatri

Vern Amloki, Beng Aonla, Hind

LIKE chebulic myrobalan, emblic myrobalan is also extensively used in Hindu medicine, both alone and in combination

¹ पित्तकृते विसर्पे लपा विषेया सृष्टा सुशीता । प्रदेहा परिषेकाश्च चन्दनैवा
प्रशस्यते ॥ चक्रदत्त ।

² पीत मधुसितायुक्त चन्दनं तण्डुलाम्बुना । रक्तातीसारजिघ्रक्षपित्तवृद्धाहमेहनुत् ॥

भावप्रकाश ।

with the two other myrobalans. The fresh fruits are globular, six striated, with a fleshy, acidulous pulp. A preserve of the ripe fruits made with sugar, is considered a wholesome article of diet and a preservative of health. The dried fruits are wrinkled, of a blackish grey colour, and have an acidulous, astringent taste.

The properties of emblic myrobalan are said to resemble those of the chebulic. The fresh juice is cooling, refrigerant, diuretic and laxative. The dried fruits are astringent and useful in hemorrhages. It is said that the exudation from incisions made on the fruits while on the tree, is a very useful external application in recent inflammation of the eye. It is also used as a collyrium.¹

The following preparation is used as a cooling and stomachic drink in irritability of the stomach. Take of emblic myrobalan, raisins, sugar and honey, eight tolas each, water half a seer. Rub them together, strain through cloth and administer the strained fluid in suitable doses.²

About two drachms of emblic myrobalan is recommended to be given in the form of a paste, with the addition of honey for checking menorrhagia and discharge of blood from the uterus. The fresh juice of the ripe fruits is given with honey as a diuretic.³ A piece of the fruits is applied over the pubic region in irritability of the bladder.⁴

Khandāmalakī,⁵ or confection of emblic myrobalan. Take of the pulp of an old gourd of *Benincasa arifera*, (*Lushmīnda*) four

¹ धात्रीफलनिष्ठासी नव दृक्वीप निहन्ति पूरणत । तरुणविज्ञानकरस सर्वाचि-
रीगन्तु ॥ चक्रदत्त ।

² पिष्टा धात्रीफल द्राक्षा शर्कराश्च पलीम्निताम् । दत्त्वा मधुपलञ्चाच्च कुडव सलि-
लस्य च । वाससा गलित पीत इन्ति चर्दि विदीपयाम् ॥ चक्रदत्त ।

³ धात्रीरसेन सचौद्र सल्लिनेहहं परम् ॥ चक्रदत्त ।

⁴ आमलक्याथ कल्केन वस्त्रिभाग प्रलेपयेत् । तेन प्रशाम्यति क्षिप्र नियमान्मूल-
नियहं ॥ भावप्रकाश ।

⁵ खण्डामलकी । खिन्नपीडितकृष्णान्तात्तुला^५ + ४मान्यत । प्रस्थाज्जे खण्डतुल्यन्तु
पचिदामलकीरसात् । प्रस्थे सुखिन्नवृष्णात्परं प्रथे विघट्टयन् । दर्व्या पाक गते तस्मिन्-

hundred tolas, clarified butter two seers, sugar four hundred tolas, fresh emblic myrobalans four seers, juice of the gourd of *Benincasa cerifera*, four seers, first dry the pulp of the gourd and fry it in the clarified butter Express the juice of the emblic myrobalans and boil the fried pulp in the mixed juices of the emblic myrobalan and the pumpkin, with the addition of the sugar When the syrup is thick enough, add the following aromatic substances, namely, long pepper, nigella seeds and ginger, each sixteen tolas, black pepper eight tolas, coriander, cinnamon, leaves called *tejapatra*, cardamoms, flowers of *Mesua ferrea* (*nágakesara*), tubers of *Cyperus rotundus* (*mustaka*), and the leaves of *Pinus Webbiana* (*talisa*), each two tolas (all in fine powder) and stir with a ladle till intimately mixed Then add honey one seer and stir well till reduced to the consistence of a confection This preparation is said to be useful in dyspepsia with pain and vomiting after meals, disinclination for food, pain in the precordial region, etc It promotes the appetite and acts as a tonic

*Dhātū lauha*¹ Take of powdered emblic myrobalan, sixty-four tolas, prepared iron thirty-two tolas, liquorice powder sixteen tolas, mix them together and soak in the juice of *gulantha* for seven times successively This preparation is given in doses of twenty to forty grains in anæmia, jaundice and dyspepsia

शीतल्य विनिचिपेत् । द्वे द्वे पले कथाजाजीशुखोना भरिचस्य च । पल-तानीश
धन्याक चातुर्जातक सुस्तकम् । कयप्रमाण प्रत्येक प्रस्थाद्य माचिकस्य च । पक्तिशूल
निहत्येतद्दोषत्रयभवञ्च यत् । कुर्यात्तपित्तमूर्च्छाञ्च श्वासकासावरीचकम् । हृच्छूल
रक्तपित्तञ्च पृष्ठशूलञ्च नाशयेत् । रसायनमिदं श्रेष्ठ खण्डामलकसञ्चितम् ॥

चक्रदत्त ।

¹ धात्रीलौहम् । धात्रीचूर्णस्याष्टौ पलानि चत्वारि लीहचूर्णस्य । यष्टोमधुकरजश्च
द्विपल दद्यादुपलेष्टम् । अमृताकाधेनैतच्चूर्णं भाव्यञ्च समाह्वम् । चण्डातपेपु सुपक्त
भृश पिष्टा नवे घटे स्थाप्यम् । द्रवमधुना सह युक्तं भुक्तादौ मध्यतीक्ष्णं च । त्रीनपि
वारान् खादत् पय्य दोषानुत्थेन । भक्त्यादौ नाशयति व्याधीन् पित्तानिलीहवान् ।
मध्वेन्द्रविष्टश्च जयति वृणा विदस्यते नात्रम् । पानान्नक्तान् दोषान् भुक्तानि शोषयत
जयति । एव जीर्यति चान्ने शूल वृणा सुकष्टमपि ॥

चक्रदत्त ।

*Dhātū a, 'shīa*¹ or fermented liquor of emblic myrobalan. Take the fresh juice of two thousand emblic myrobalans, honey in quantity equal to one eighth of the juice, powdered long pepper sixteen tolās, sugar six seers and a quarter, mix them together, boil for a while and leave the mixture to ferment in an earthen jar. This liquor is used in jaundice, dyspepsia, indigestion, cough, etc.

CROTON TIGLIUM, Linn

Sans जयपाल, *Jayapala* कनकफल, *Kanakaphala*

Vern Jaypāl, *Beng* Jamalgota, *Hind*

THE seeds of *Croton Tiglium* are considered heating, drastic, and useful in fever, constipation, intestinal worms, enlargements of the abdominal viscera, ascites, anasarca, etc. They are boiled in milk and their outer skin and embryo are removed before being used internally. Croton oil is not mentioned by any Sanskrit writer and was unknown to the ancient Hindus. Croton seeds enter into the composition of a great many medicines for the diseases mentioned above. The following are a few illustrations.

*Ichchhavedivatika*² Take of mercury, sulphur, borax and black pepper, one part each, ginger three parts, croton seeds nine parts, rub them together with water and make into two grain pills. These are given in fever with constipation as also in ascites and anasarca.

*Rukhesa rasa*³ Take of chebulic myrobalan five parts, croton

¹ धातुपरिष्ट । धातुफलसहस्रे द्वे पीडयित्वा रसं भिषक् । चीद्राष्टभागं पिप्पल्यायूष्णार्द्धकुडवान्वितम् । शर्करार्द्धतुलीनमिष्टं पक्वं क्षिप्रघटे स्थितम् । प्रपिबेत् पाण्डुरोगार्थं कौशे हितमिताशन । कामला पाण्डु हृद्दोग्दवातासृक्विषमज्वरान् । कास-हिकारुचिश्चासानेपौऽरिष्टं प्रणाशयेत् ॥

चक्रादयः ।

² इच्छामेदी रसः । शुद्धं पारददण्डं समरिचं तुल्याभ्रमग्न्या तथा विश्वा च विगुणा ततो नवगुणं जैपालचूर्णं क्षिपेत् । गुञ्जीकप्रमिती रसो हिमजलैः संस्रियते रचयेद्यावन्नील-जलं पिवेदपि नरः पथ्यञ्च दध्नीदनम् ॥

रसेन्द्रसारसयहः ।

³ रुक्मेशीरसः । अभयचूर्णमादाय नूतनैर्जयपालजैः । पञ्चमाशेन मिलितैः सुही-दुग्धैर्विपाचितम् । गुडिकाक्षस्य कर्षस्या वसुलायणकपभाः । विष्टम्बे गुडिका देया चीदरे दारुणात्मके ॥

रसेन्द्रसारसयहः ।

seeds one part, soak them in the milky juice of *Euphorbia nerifolia* (*snuhi*), and make into four-grain pills. These are given with a decoction of the root of *Ipomæa Turpethum* (*trivrit*), or *Baliospermum montanum* (*danti*), as a drastic purgative in obstinate constipation.

Mahanāracha rasa ¹ Take chebulic myrobalan, pulp of *Cassia Fistula*, emblic myrobalan, root of *Baliospermum montanum* (*danti*), *Picrorhiza Kurroa* (*tikta*) milky juice of *Euphorbia nerifolia* (*snuhi*), root of *Ipomæa Turpethum* (*trivrit*) and the tubers of *Cyperus rotundus* (*mustaka*), each one tola, pound them to a coarse powder and boil in four seers of water till the latter is reduced to one-eighth. Then take a tola of husked croton seeds, tie them in a piece of thin cloth and boil them in the above mentioned decoction till the latter is reduced to the consistence of a fluid extract. To this extract add a powder composed of eight parts of purified croton seeds, three parts of ginger and two of black pepper, mercury and sulphur, in quantity sufficient to make a pill-mass, rub them together for twelve hours, and make into two grain pills. These are given with cold water in tympanitis, colic, ascites, etc., as a drastic purgative. After the operation of this medicine, rice should be given with curdled milk and sugar.

BALIOSPERMUM MONTANUM, Mull

Sans दन्ती, *Danti Vern* Danti, *Hind* Beng

THE seeds of *Baliospermum montanum* are described as drastic. Like croton seeds they are boiled in milk before use. The root of the plant is considered cathartic. Both are much used in diseases where purgatives are indicated. The following are a few examples of prescriptions containing these medicines.

¹ महानाराचरस । अमवारग्वधो धात्री दन्ती तित्ता स्रुही विवृत् । सुप्ता प्रत्येक-
मेतानि याज्ञाणि पलमात्रया । तानि सङ्गृह्य सर्वाणि जलाढकयुगे पचेत् । तत्र
तीप्रेष्ठम भाग कषायसर्वशेषयेत् । निस्सक्जैपालवीजानि नवानि पलमात्रया । तत्र-
वस्त्रधृतार्षेव तस्मिन् क्वाथे शनै पचेत् । ज्वालयेदनल सन्द यावत्क्वाथो घनो भवेत् ।
तत्र खल्वे निपेद्भागानष्टौ जैपालवोजत । भागान् त्रीन् नागरात् द्वौ च सरिचाद्वौ

Narayana rasa ¹ Take of mercury, borax and black pepper, one part each, sulphur, ginger and long pepper two parts each, seeds of *Baliospermum montanum* nine parts, powder the ingredients and make into two grain pills with water. These are given in constipation and tympanites.

Danti haritaki ² Take twenty-five large chebulic myrobalans and enclose them in a piece of cloth, then take of the roots of *Baliospermum montanum* and *Ipomoea Turpethum* (*trivrit*), each two hundred tolas, water sixty four seers, boil them together till the water is reduced to eight seers. Strain the decoction, take out the chebulic myrobalans and fry them in thirty two tolas of sesamum oil. To the strained decoction add two hundred tolas of old treacle, then boil till reduced to the proper consistence for a confection. Now add to the mass the following substances, namely powdered root of *Ipomoea Turpethum* (*trivrit*) thirty-two tolas, long pepper and ginger, each eight tolas, and stir them well, when cool add thirty two tolas of honey, cinnamon, cardamom, leaves called *tejapatra*, and the flowers of *Mesua ferrea* (*nagakesara*) each eight

च पारदात् । गन्धकादहो च तानीह यावद्यास विमर्दयेत् । रसी नाराचनामापं भक्षितो रक्तिकामितः । जलन शीतलनेव रोगानेतान् विनाशयेत् । आधानं शूल-
मानाह प्रत्याधानं तथैव च । उदावर्त्तं तथा गुन्द्रमुदराणि हरत्यसौ । वेगे शान्ते तु
भुञ्जत शकरासहितं दधि । ततस्तत् सैन्धवेनापि ततो दध्यौदनं सनात् ॥

भावप्रकाश ।

¹ नाराचरस । सूत टङ्गणक तुल्यं सरिषं समतुल्यकम् । गन्धकं पिप्पलीं गुग्गुलीं
ह्रीं ह्रीं भागीं विचूर्णयेत् । सवतुल्यं क्षिपेदन्तर्बीजनिम्बुपितम्बवेत् । गुग्गुलैकं रेचनं
सिद्धं नाराचोऽयं महारसः । आधानमलविष्टभसुदावर्त्तं च नाशयेत् ॥

शार्ङ्गधर ।

² दन्तीहरीतकी । जलद्वीये विपक्षव्या विगतिं पञ्च चाभया । दन्त्या पलानि
तावन्ति क्षिप्रकस्य तथैव च । तेनाष्टभागशेषेण पचिद्दन्तीससं गुग्गुम् । तस्याभया
त्रिवृक्षूर्णाक्षिलाश्चापि चतुःपलम् । पलमेकं कणाशुष्ट्रीं सिद्धे लेहे च शीतले । चेद्र
तैलसमं दद्याच्चतुर्जातपलन्तथा । ततो लेहपलं सौद्धं जग्ध्वा पैका हरीतकीम् । सुखं
विरिच्यते क्षिप्रं दीपनाग्निं ह्यनामयः । श्लेष्मशयधुग्गुमाशो हृत्पारुशुश्लेष्मीगदा ।
शाम्यन्तुर्गुल्फेऽपि विपमज्जरकुष्ठान्यराचका ॥

चक्रदत्त ।

tolas, and prepare a confection The chebulic myrobalans should be kept imbedded in the medicine Two tolas of the confection and one of the chebulic myrobalans are to be taken every morning

Gudāsh'aka ¹ Take of *danti*, *trivrit* and plumbago roots, black pepper, long pepper, ginger and long pepper root, equal parts in fine powder, treacle, equal in weight to all the other ingredients and mix Dose, about a tola every morning in flatulence and retained secretions, anasarca, jaundice, etc

RICINIS COMMUNIS, *Linn*

Sans एरण्ड, *Eranda* रुवुक, *Ruvuka*

Vern Bherenda, *Beng* Erend *Hind*

THE root *Ricinis Communis* and the oil obtained from the seeds have been used in medicine by the Hindus from a very remote period They are mentioned by Susruta Two varieties of the plant are described, namely red and white Their properties are said to be identical Castor oil is regarded as purgative and useful in costiveness, tympanitis, fever, inflammation, etc It is much praised for its efficacy in chronic rheumatic affections in which it is used in various combinations One of its synonyms is *vadari* or anti rheumatic The root of the plant is also said to be particularly useful in the local varieties of rheumatism such as lumbago, pleurodynia, and sciatica

As a purgative, castor oil is recommended to be taken with cow's urine, or an infusion of ginger or a decoction of the combination called *dasamula* (see *Desmodium gangeticum*) ²

¹ गुडाटकम् । व्योष दन्ती विहञ्चित कृष्णामूल विचूर्णितम् । तच्चूण गुडसन्मिश्र भक्षयेत् प्रातरुत्थित । एतद्गुडाटक नाम बलवर्णाग्निवृद्धनम् । शोधादावत्त शूलघ्न म्लीहपाण्डुमयापहम् । सर्वचूर्णसमो गुडी दैव ॥
भावप्रकाश ।

² दशमूलीकपायेण पिवेद्वा नागराभसा । कटिशूलेषु सञ्चेषु तैलमेरण्डसम्भवम् ॥

The seeds, freed from impurities and rubbed into a paste, are boiled in milk and water, and the decoction is given in lumbago and sciatica¹ In pleurodynia, or pain in the sides, a decoction of the root is given with the addition of *Javakshera*, (impure carbonate of potash)² The root of *Ricinus communis* enters into the composition of various compound prescriptions for rheumatic affections and diseases of the nervous system

In affections of the eyes, castor oil leaves and root are used in a variety of forms and several prescriptions containing them are given by most writers A decoction of the bark, leaves and root of the plant, in goat's milk and water is recommended for use as a wash in recent ophthalmia³

MALLOTUS PHILIPPENSIS, Mull

Syn *Rottlera tinctoria*, Roxb

Sans कम्पिल्ल, *Kampilla*, रेचनक, *Rechanaka*

Vern *Kamila*, Beng *Kambila*, *Kamala*, Hind

ROXBURGH and Brandis give *Punnaga* as the Sanskrit for this plant As far as my information goes, *Punnaga* is the Sanskrit for *Calophyllum inophyllum*, a large tree of the Coromandel Coast with beautiful white fragrant flowers and numerous stamens arranged in rows *Kampilla* is the red mealy powder covering the capsules of *Mallotus Philippensis* It is described as cathartic and anthelmintic and is chiefly used to expel intestinal worms *Kampilla* powder given in doses of one tola with treacle, is said to kill and expel all intestinal worms⁴ It enters into the composition of

¹ विशोध्यैरण्डबीजानि पिष्ट्वा चीरे विपाचयेत् । तत्पायस कटीश्ले श्रमस्यां परमौषधम् ॥ भावप्रकाश ।

² एरण्डमूल द्विपल जलेऽष्टगुणतो पचेत् । तत्कायो यावच्छूकाश्च पार्श्वहृत्कफ-शूलहा ॥ शार्ङ्गधर ।

³ एरण्डपल्लवे मूले त्वचि चान पय सृतम् । कण्टकाय्याय मूलेषु सुखीण सेवने हितम् ॥ चक्रदत्त ।

⁴ कम्पिल्लचूर्णकर्पाश' गुडेन सह भक्षितम् । पातयेच्च किमीन् सर्वाणुदरस्यान्न सशय ॥ भावप्रकाश ।

numerous compound prescriptions for worms The following is an illustration Take of *kampilla*, *baberang* seeds, chebulic myrobalan, *yavakshara* (impure carbonate of potash), and rock salt, equal parts, powder and mix Dose, about a drachm, with butter-milk ¹

EUPHORBIA NERIIFOLIA, Linn

Syn Euphorbia ligularia, Roxb

Sans सुहि, Snuhu, वज्रो, Vajri, सेहण्ड, Sehunda

Vern Mansasiy, Beng Sehund, Thohar, Hind

THIS prickly shrub is sacred to Mansa the goddess of serpents On the fifth day after full moon of the month of Sravana (July, August) it is planted in the court-yard of Hindu houses and worshipped as the representative of Mansa the goddess of serpents *Euphorbia antiquorum*, called *tekata sij* in Bengali on account of its triangular stem, is probably alluded to by some Sanskrit writers under the name of *vajri*, which is explained as a variety of *snuhu* This plant is supposed to ward off lightening strokes and is generally kept in tubs or pots on the roofs or other exposed parts of native houses Its popular medicinal uses are like those of *Euphorbia nerifolia*

The milky juice of *Euphorbia nerifolia* is considered purgative and rubefacient As a purgative it is generally used in combination with other medicines which are steeped in it Chebulic myrobalan, long pepper, *trivrit* root, etc., are thus treated and administered as drastic purgatives, in ascites, anasarca and tympanitis ² It enters into the composition of several compound prescriptions of a drastic character as for example, the *Mahana-racha rasa* described under *Croton Tiglium*, and *Vindu ghrita* a preparation with clarified butter, of similar composition

Turmeric powder mixed with the milky juice of *Euphorbia*

¹ विडङ्गसैन्धवचारकान्पिह्वकहरीतकी । पिवेत्तन्नि सपिष्टा सञ्जेक्रिमिनिवृत्तये ॥

चक्रदत्त ।

² त्रिहृदरीतकी श्लामा, सुहौचीरेण भावेत् । वटिका मूत्रपीतास्ता श्लेष्माश-
नाहमेदिका ॥

चक्रदत्त ।

nerifolia is recommended to be applied to piles.¹ Thread steeped in the above mentioned mixture is used in ligaturing external hemorrhoids.² The powdered wood of *Berberis Asiatica* (*daruhari drá*) is steeped in the milky juice of *srum* and of *Calotropis gigantea* (*arika*), and made into tents for introduction into the tracks of fistula in ano and other sinuses.³

NAT ORDER MYRICEÆ

MYRICA SAPIDA, Hall

Sans कट्फल, *Katphala Vern* Káephala, *Hind*

THE bark of *Myrica sapida* (a Himalayan tree), is its most valuable product, and is largely exported to the plains. It is dark or brownish grey, with deep vertical wrinkles, and is considered heating, stimulant and useful in diseases supposed to be caused by deranged phlegm, such as catarrhal fever, cough, and affections of the throat. It enters into the composition of numerous formulæ for these diseases. The following is an example.

*Katphaládi Churna*¹ Take of the bark of *Myrica sapida*, tubers of *Cyperus rotundus* (*mustaka*), root of *Pterorrhiza Kurroa* (*katuki*), *Curcuma Zedoaria* (*sari*), *Rhus succedanea* (*karkara singi*), and the root of *Aplorhiza auriculata* (*kushla*), equal parts, powder and mix. This powder is given in doses of about a drachm with the addition of ginger juice and honey in affections of the throat, cough and asthma.

In catarrh with headache the powdered bark is occasionally used as a snuff.

¹ सुक्चीर रजनौयुक्त लेपाद्दुर्नामनाशनम् ॥

चक्रदत्तः ।

² भावित रजनौचूर्णे सुक्चीचोरे पुन पुनः । बन्धनात् सुदृढं सूत्रं भिनत्यर्थं

भगन्दरम् ॥

चक्रदत्तः ।

³ सुक्ष्मकंदुग्ध दाह्यभिर्वर्त्ति कृत्वा विचक्षणः । भगन्दरगतिं ज्ञात्वा पूरयेत्ता प्रयवत ।

एषा सर्वशरीरस्था नाडी हन्यान्न सशयः ॥

चक्रदत्तः ।

⁴ कट्फलादिचूर्णम् । कट्फलं सुस्तकं तित्ता शटी शङ्खी च पुष्करम् । चूर्णमेषां

सधुना शङ्खवेररसेन च । लिङ्गं ज्वरहरं कण्ठ्यं कासश्यासारुचौ च जयेत् । वायुच्छर्दि

तथा शूलं चयश्चैव व्यपोहति ॥

शार्ङ्गधरः ।

• NAT ORDER URTICEÆ

FICUS RELIGIOSA, *Linn Sans* अश्वत्थ, *Asvattha Vern Pipal*,
Hind

FICUS BENGALENSIS, *Linn Sans* बट, *Vata Vern Bar Hind*

FICUS GLOMERATA, *Willd Sans* उडुम्बर, *Udumbara Vern*
Jagnodumar, Beng Gular,, Hind

FICUS INFECTORIA, *Roxb Sans* पकैटि, *Parkati Vern Pakur*,
Beng Pakri, Hind

THE root-barks of these four species of *Ficus* together with that of *Azadarachta Indica* pass by the name of *Panchavalka* or the five barks, and are used in combination. A decoction of these barks, called *Pancha valkala kashaya* is much used as a gargle in salivation, as a wash for ulcers, and as an injection in leucorrhœa¹. The powdered root-bark of *Ficus religiosa* rubbed with honey is applied to aphthous sores of children². It is also sprinkled over unhealthy ulcers to improve their condition and promote granulation³.

The figs of *Ficus glomerata* are considered astringent, stomachic and carminative and are given in menorrhagia and hæmoptysis in doses of one tola of the dried fruits with sugar and honey⁴. The fresh juice of the ripe fruit is given as an adjunct to a metallic medicine for diabetes and other urinary complaints, called *Vrihat vangesvara rasa*, (see Tin)

CANNABIS SATIVA, *Linn* VAR INDICA

Sans विजया, *Vijaya*, भङ्गा, *Bhanga*, गङ्गा, *Ganga*, इन्द्राग्रन, *Indrasana*
Vern Siddhi, Bhang, Beng Bháng Hind

THE *Cannabis sativa* has been used from a very remote period both in medicine and as an intoxicating agent. A mythological

¹ प्रदेहा परिषेकाश्च शस्यन्ते पञ्चवल्कलैः ॥ चक्रदत्त ।

² अश्वत्थलग्नदलक्षौरेर्मुखपाके प्रलेपनम् ॥ चक्रदत्त ।

³ अतर्दग्धकुठारकी दहनज लेपान्निवृत्तिं व्रणान् । अश्वत्थस्य विशुष्कवल्कलैर्हृत चूर्णं तथा गुण्डनात् ॥ चक्रदत्त ।

⁴ समाचिकं फल्गुफलोद्भवी वा पीवी रस' शोषितमाद्य हन्ति ॥ चौद्रयुक्त फलरस

origin has been invented for it. It is said to have been produced in the shape of nectar while the gods were churning the ocean with the mountain called Mandara. It is the favourite drink of Indra, the king of gods, and is called *amrita*, because it gives success to its votaries. The gods through compassion on the human race sent it to this earth so that mankind by using it habitually may attain delight, lose all fear, and have their several desires excited¹. On the first day of the Durga puja, after the idols are thrown into water, it is customary for the Hindustanis to see their friends and relatives and embrace them. After this ceremony is over it is incumbent on the owner of the house to offer to his visitors a cup of *bhang* and sweet-meats for tiffin.

An intoxicating agent with such recommendations cannot but be popular and so we find it in general use amongst all classes especially in the North West provinces and Behar. In Bengal it has latterly become the fashion to substitute brandy, but I well remember having seen in the days of my boyhood the free use of *bhang* among the better classes of people who would have shunned as a pariah any one of their society addicted to the use of the forbidden spirituous liquor. At the doors of many rich baboos, Hindustani durwans could be seen rubbing the *bhang* in a stone mortar with a long wooden pestle, and the paste so prepared was not solely intended for the use of the servants. I do not mean to say that all classes of Hindoos without exception are or were addicted to the use of *bhang*. Some castes among the up country men and some classes of people amongst Bengalis are as a rule very temperate in their habits and do not use any narcotic at all, but the ordinary run of orthodox Hindus, accustomed to have their little excitements, use

क्रीष्णोऽम्बरजः पिवेत् । असृग्दरविनाशाय सशर्करपयोऽन्नमुक् ॥ चक्रदत्त ।

¹ जाता मन्दरमन्थनाञ्जलिनिधौ पीयूषरूपा पुरा वैलोकी विजयप्रदंति विजया श्रीदेव-
राजप्रिया । लोकाणां हितकाम्यया चितितले प्राप्ता नरैः कामदा सर्वातङ्गविनाश-
हर्षजननीथैः सेविता सर्वदा ॥ राजवल्लभ ।

bhāṅg for the purpose without incurring any opprobrium such as would result from the use of spirituous liquors

The three principal forms in which Indian hemp is met with in India are,—1, *Ganya*, the dried flowering tops of the female plant, from which the resin has not been removed 2, *Charas*, the resinous exudation from the leaves, stems and flowers 3, *Bhang*, the larger leaves and seed vessels without the stalks

Sir William O'Shaughnessy has so well described the preparations of Indian hemp in use amongst the natives, and his name is so intimately associated with the history of this drug, that I cannot do better than quote his account of them

"*Sidhee*, *Subjee* and *Bhang* (synonymous) are used with water as a drink which is thus prepared —About three tolas' weight (540 troy grains) are well washed with cold water, then rubbed to powder, mixed with black pepper, cucumber and melon seeds, sugar, half a pint of milk and an equal quantity of water This is considered sufficient to intoxicate an habituated person Half the quantity is enough for a novice This composition is chiefly used by the Mahomedans of the better classes

"Another recipe is as follows —

The same quantity of *Siddhi* is washed and ground, mixed with black pepper, and a quart of cold water added This is drank at one sitting This is the favourite beverage of the Hindus who practice this vice, especially the Birjobassies and many of the Rajpootana soldiery

"From either of these beverages intoxication will ensue in half an hour Almost invariably the inebriation is of the most cheerful kind, causing the person to sing and dance, to eat food with great relish, and to seek aphrodisiac enjoyments In persons of a quarrelsome disposition it occasions, as might be expected, an exasperation of their natural tendency The intoxication lasts about three hours, when sleep supervenes No nausea or sickness of stomach succeeds, nor are the bowels at all affected, next day there is slight giddiness and vascularity of the eyes, but no other symptom worth recording

Ganya is used for smoking alone one rupee weight, (180 grams) and a little dried tobacco are rubbed together in the palm

of the hand, with a few drops of water. This suffices for three persons. A little tobacco is placed in the pipe first, then a layer of the prepared *ganyā*, then more tobacco and the fire above all. Four or five persons usually join in this draught. The *hā'ah* is passed round, and each person takes a single draught. Intoxication ensues almost instantly and from one draught to the unaccustomed, within half an hour, and after four or five inspirations to those more practised in the vice. The effects differ from those occasioned by the *siddhi*. Heaviness, laziness, and agreeable reveries ensue, but the person can be readily roused and is able to discharge routine occupations, such as pulling the pinkah, waiting at table, etc,

"The *Majoon* or hemp confection, is a compound of sugar, butter, flour, milk, and *siddhi* or *blang*. The process has been repeatedly performed before us by Ameer, the proprietor of a celebrated place of resort for hemp devotees in Calcutta and who is considered the best artist in his profession. Four ounces of *siddhi* and an equal quantity of *ghee* are placed in an earthen or well tinned vessel, a pint of water added, and the whole warmed over a charcoal fire. The mixture is constantly stirred until the water all boils away, which is known by the crackling noise of the melted butter on the sides of the vessel. The mixture is then removed from the fire, squeezed through cloth while hot, by which an oleaginous solution of the active principles and colouring matter of the hemp is obtained, and the leaves, fibres, etc, remaining on the cloth are thrown away. The green oily solution soon concretes into a buttery mass and is then well washed by the hand with soft water, so long as the water becomes coloured. The colouring matter and an extractive substance are thus removed and a very pale green mass, of the consistence of simple ointment, remains. The washings are thrown away, Ameer says that these are intoxicating, and produce constriction of the throat, great pain and very disagreeable and dangerous symptoms.

"The operator then takes two pounds of sugar, and adding a little water, places it in a pipkin over the fire. When the sugar dissolves and froths, two ounces of milk are added, a thick scum rises and is removed. more milk and a little water are added

from time to time, and the boiling continued about an hour, the solution being carefully stirred until it becomes an adhesive clear syrup, ready to solidify on a cold surface, four ounces of tyre (new milk dried before the sun) in fine powder are now stirred in, and lastly the prepared butter of hemp is introduced, brisk stirring being continued for a few minutes. A few drops of attar of roses are then quickly sprinkled in, and the mixture poured from the pipkin on a flat cold dish or slab. The mass concretes immediately into a thick cake, which is divided into small lozenge-shaped pieces. A seer thus prepared sells for four rupees. One drachm by weight will intoxicate a beginner, three drachms, one experienced in its use. The taste is sweet and the odour very agreeable. Ameer states that sometimes by special order of customers he introduces stramonium seeds, but never *nux vomica*, that all classes of persons including the lower Portugese or Kala Feringhees and especially their females, consume the drug, that it is most fascinating in its effects, producing exaltic happiness, a persuasion of high rank, a sensation of flying, voracious appetite and intense aphrodisiac desire **

The leaves of *Cannabis sativa* are purified by being boiled in milk before use. They are regarded as heating, digestive, astringent and narcotic. The intoxication produced by *bháng* is said to be of a pleasant description and to promote talkativeness.

In sleeplessness, the powder of the fried leaves is given in suitable doses for inducing sleep and removing pain¹.

*Jatiphaldya churna*². Take of nutmeg, cloves, cinnamon,

* Bengal Dispensatory, p 532.

¹ भट्टन्तु विजयाचूर्णं मधुना निशि भक्षयेत् । निद्रानाशेऽतिसारे च ग्रहणां
पावकक्षये ॥ दर्पणः ।

² जातीफलस्य चूर्णम् । जातीफलवड्डैलापवैस्वङ्नागकेशरैः । कर्पूरचन्दनतिलै-
स्त्वक्चूरी तगरामलैः । तालीश पिप्ली पथ्या चित्रक म्बूलजीरकैः । शुष्की विडङ्ग सरिचै-
समभागानि चूर्णिते । यावन्त्येतानि सर्वाणि कार्या भङ्गा च तावती । सर्वचूर्णसमा-
देया शर्करा च भिषग्वरैः । कर्षमाव तथा खादेन्मधुना प्राणित सधीः । अस्य प्रभावाद्-
यक्षणीकासश्वासाश्चिद्यान् । वातश्लेष्मप्रतीश्याश्च प्रशमयति वेगत ॥

शार्ङ्गधर ।

cardamon, *tejapatra* leaves, flowers of *Mesua ferrea* (*nagakesara*), camphor, sandal wood, sesimum seeds, bamboo manna, flowers of *Tabernaemontana cororaria* (*tagara*), chebulic and emblic myrobalans, long pepper, black pepper, ginger, leaves of *Pinus Wetheriana* (*talisa*), plumbago root, curin seeds and the seeds of *Lorlia Ribes* (*viranga*), equal parts, purified *bhang* equal in weight to all the above ingredients, and sugar twice as much as the *bhang* Powder and mix Dose, about twenty to forty grains This preparation is given in diarrhoea, indigestion and loss of appetite

Jvalanala rasa ¹ Take of *parashara*, and *saryitckshira*, (impure carbonates of potash and soda), borax, mercury, sulphur, long pepper, black pepper, *Piper Chaba* (*chavya*) and ginger, equal parts, fried leaves of *Cannabis sativa* equal to all the above ingredients, root of *Moringa pterygosperma* half the weight of *bhang*, powder the ingredients, mix and soak the mixed powder for three days in each of the following fluids, namely a decoction or fresh juice of the leaves of *Cannabis Indica*, the roots of *Moringa pterygosperma* and *Plumbago rosea*, and dry in the sun Then roast the mass lightly and make into a pill mass with the juice of the leaves of *Wedelia calendulacea* (*bhringaraja*), Dose, about half a drachm with honey This medicine is given in indigestion and loss of appetite with nausea and vomiting

Numerous confections of *bhang*, such as *Kamesvara modaka*, *Madana modaka*, *Balyasakrasana modaka*, etc, are described in books These, as their names imply, are considered aphrodisiac and are used in chronic bowel complaints and nervous debility Most of them are prepared with equal parts of a number of supposed tonic and aphrodisiac substances in small quantities and *bhang* equal in weight to all the other ingredients, together with

¹ ज्वालानली रस । चारवयं सूतगन्धी पञ्चकोलमिद समम् । सर्वैस्तुल्या जया भृष्टा तदर्द्धा शिशुजा जटा । एतत्सर्वं जया शिशु वल्लीना केवलैर्द्रवै । भावयेत् विदिन घर्मे ततो लघुपटे पचेत् । मार्कवस्य द्रवैर्दृष्टो रसो ज्वालानली भवेत् । निष्कोऽस्य मधुना लीढोऽनुपानं गुडनागरम् । हन्यजीर्णमतीसार यक्ष्णीमग्रिसार्द्रवम् । शम्भुल्लासवमनमालस्यमरुचि जयेत् ॥

sugar, honey and the usual aromatics *Majoon*, the preparation of which has been already described, would I believe be a better substitute for these complicated preparations. The following is an illustration

Madara modaka ¹ Take of the three myrobalans, ginger, long pepper, black pepper, *Rhus succedanea* (*sringi*), *Pachak* root, coriander, rock salt, zedoary root, leaves of *Pinus Webbiana* (*talisa*), bark of *Myrica sapida* (*ka'phala*) flowers of *Mesua ferrea* (*nagakesara*), *ajowan*, seeds of *Seseli Indicum* (*vanajaman*), liquorice root, seeds of *Trigonella fanumgræcum* (*methi*), cumin and nigella seeds equal parts, hemp leaves with flowers and seeds fried in clarified butter, equal in weight to all the other ingredients, sugar equal in weight to the hemp Prepare a syrup with the sugar, then add the other substances in fine powder and make into a confection Lastly add clarified butter, honey, powdered sesium seeds, cardamoms, cinnamon, *ujapatra* leaves and camphor, each two tolas, and make into boluses of about eighty grains each This confection is used in cough, chronic bowel complaints and impotence

NAT, ORDER PIPERACEÆ

PIPER NIGRUM, Linn

Sans मरिच, *Maricha*, उषण, *Ushana*

Vern Golmarich, *Beng* Kalimarich, *Hind*

THE use of black pepper as a condiment is too well known to require any notice here Medicinally it is much used in combination

¹ मदनमोदक । वैलीक्यविजयापल सवोज घृतभर्जितम् । विकटु विफला शङ्खी कुष्ठ धन्वाक सैन्धवम् । शटी तागीमपवच्च कट्फल नागकिशरम् । अजमोदा यमानी च यष्टोमधुकमेव च । मीथी जीरकयुग्मञ्च गृहीत्वा क्षणचूर्णितम् । यावन्त्येतानि चूर्णानि तावदेव तदीपधम् । तावदेव सता देया यावदायाति बन्धनम् । घृतेन मधुना मिश्र मोदक परिकल्पयेत् । भर्जित तिलचूर्णञ्च मोदकोपरि विन्यसेत् । त्रिसुगन्धसमायुक्त कर्पूरेणाधिवासितम् । स्थापयेत् घृतभाण्डे तु श्रीमन्मदनमोदकम् । सर्वरोगहरं ह्येतत् सग्रहग्रहणीहरम् । एतस्य सतताभ्यासाद् बद्धोऽपि तरुणायते । एतत् कामप्रबद्धार्थं नारदेन प्रभाषितम् ॥

सारकौसुदी ।

with long pepper and ginger, under the name of *tribala* or the three acids. In fact, as any reader who has gone through these pages must have noticed, very few compound prescriptions are free from the three myrobalsans, and the three acids, which seem to be added often without reason, and sometimes for the sake of rhyme. Black pepper is described as acrid, pungent, hot, dry, carminative and useful in intermittent fever, hemorrhoids and dyspepsia. Externally it is used as a rubefacient in alopecia and skin diseases.

In intermittent fever, black pepper in doses of about 2 drachm, is recommended to be given with the juice of the leaves of *Ocimum sanctum* (*tulasi*), or *Leucas linifolia* (*dioraphushti*)¹. It enters into the composition of numerous prescriptions for dyspepsia, piles and indigestion. The following is an example.

*Pranada gulika*². Take of black pepper thirty two tolas, ginger twenty four tolas, long pepper sixteen tolas, *Piper Chaba* (*chatya*) eight tolas, leaves of *Pinus Webbiana* (*talisa*) eight tolas, flowers of *Mesua ferrea*, (*nagakesara*) four tolas, long pepper root sixteen tolas, leaves called *tejapatta* and cinnamon one tola each, cardamoms and the root of *Andropogon muricatus*, (*usna*) two tolas each, old treacle two hundred and forty tolas, rub them together. Dose, about two drachms. This confection is given in hæmorrhoids. When there is costiveness and a sense of heat, chebulic myrobalan is substituted for the ginger in the above prescription.

The bald patches of alopecia are recommended to be rubbed

¹ पीतो मरिचचूणेन तुलसीपत्रजो रसः । द्रोणपुष्पीरसो वापि निहन्ति विषम-
व्वरान् ॥ भावप्रकाशः ।

² प्राणदा गुडिका । विपल शङ्खवेरस्य चतुथ मरिचस्य च । पिप्पल्या कुडवाइश्च
चव्याया पलमेव च । तालीशपतस्य पल पलाह केशरस्य च । द्वे पले पिप्पलीमूला-
दहकर्षश्च पत्रकात् । सूक्ष्मलाकर्षमेकान्तु कप त्वगमृणालयो । गुडात् पलानि तु तिस्रत्
चूर्णमेकच कारयेत् । अक्षप्रमाणा गुडिका प्राणदेति च सा स्मृता । पूर्व्व भवेत्तु पश्चात्
भीजनस्य यथावलम् । मद्य मासरस यूष क्षीर तीक्ष्ण पिवेत् तथा । हन्यादर्शांसि
सर्वाणि सहजान्यसजानि च । वातपित्तकफोल्यानि सन्निपातोद्भवानि च ॥

चक्रदत्तः ।

with some rough leaves as of *Streblus asper* (*sákhota*) and then sprinkled over with powdered black pepper ¹

PIPER LONGUM, Linn

Syn Chavua Roxburghii, Miq

Sans पिप्पली, *Pippali* कणा, *Kāna*, कणा, *Krishna*

Vern Pipul, Beng Pipal, Hind

THE dried catkins and the root of *Piper longum* are used in medicine. They are considered heating, stimulant, carminative, alterative, laxative and useful in cough, hoarseness, asthma, dyspepsia, paralysis, etc. Old long pepper is said to be more efficacious than the fresh aricle. In the form *trikatu* or the three acrids (see *Piper nigrum*), it is much used as an aromatic adjunct in compound prescriptions. Powdered long pepper, administered with honey, is said to relieve cough, asthma, hoarseness, hiccup and sleeplessness ². A mixture of long pepper, long pepper root, black pepper and ginger in equal parts, is prescribed by several writers as a useful combination for catarrh and hoarseness ³.

As an alterative tonic, long pepper is recommended for use in a peculiar manner. An infusion of three long peppers is to be taken with honey on the first day, then for ten successive days the dose is to be increased by three peppers every day, so that on the tenth day the patient will take thirty at one dose. Then the dose is to be gradually reduced by three daily and finally the medicine is to be omitted. Thus administered it is said to act as a valuable alterative tonic in paraplegia, chronic cough, enlargements of the spleen and other abdominal viscera, etc ⁴.

¹ घृष्टस्य कर्कशे पत्रैरिन्द्रलुप्तस्य गुण्डनम् । चूर्णितैर्मरिचैः कार्यमिन्द्रलुप्तनिवारणम् ॥

चक्रदत्तः ।

² मधुना पिप्पलीचूर्णं लिहेत् कामज्वरापहम् । द्विकृत्वाश्वासहरं कण्ठां ग्राह्यं बालकोचितम् ॥

भावप्रकाशः ।

³ पिप्पला पिप्पलीमूलं मरिचं विश्लेष्यम् । पिवेत् सूत्रेण मतिमान् कफजं स्वरसञ्चये ॥

भावप्रकाशः ।

⁴ पिप्पलीवृद्धमानानि । क्रमवद्भ्यां दशाहानि दशपिप्पलिकं दिनम् । वर्द्धयेत् पयसा सार्द्धं तथैवापनयेत् पुनः । जीर्णं जीर्णं च मुञ्जीत यष्टिकं चौरसर्पिः । पिप्पलीना

Long pepper and black pepper enter into the composition of several irritating snuffs. The following is an example. Take of black pepper, long pepper, seeds of *Morinda pinnatifida* (*Sida maritima*) and ginger equal parts, powder the ingredients and rub them together with the juice of the root of *Amorpha fruticosa* (*raha*). This preparation is used as a snuff in coma and drowsiness.

*Ash'aka'vara tala*¹ Take of ginger and long pepper each sixteen tolas, mustard oil four seers, butter milk thirty two seers, curdled milk four seers and boil them together in the usual way. This oil is rubbed externally in sciatica and paraplegia.

PIPER CHABA, *Hunter Sans चविक्का, Clarula Ferr Chab, Beng Chab, Hind*. The fruits of this species of *Piper* are considered stimulant, anti-catarrhal and criminative and are much used as adjuncts to medicines for cough, cold and hoarseness.

PIPER BETLE, *Linn*

Sans ताम्बूल, Tambula Fern Pan, Beng Hind

THE leaves of this creeper are, as is well known, masticated by the natives of India. The Poorer classes make their packet of betle with the addition of lime, catechu and betle nuts. The rich add cardamoms, nutmegs, cloves, camphor and other aromatics. Betle-leaf thus chewed acts as a gentle stimulant and exhilarant. Those accustomed to its use feel a sense of languor when deprived of it. The ancient Hindu writers recommend that betle leaf should be taken early in the morning, after meals and at bed time.

प्रयोगीय सहस्रस्य रसायन । दशपिप्पलिक श्रेष्ठो मध्यम पटपकीर्तित । यस्मिन्
पिप्पलीपथ्यन्त प्रयोगः सोऽवर स्मृत । इहण ह्यमायुष्य श्रीहोदरविनाशनम् ।
वयस स्थापन मेध्य पिप्पलीना रसायनम् । पञ्चपिप्पलिकश्चापि दृश्यते वर्द्धमानक ।
पिष्टास्ता बलिनि देया श्रुता मध्यवलेनरे । शीतक्रिया क्रसवलेर्देहदीपामयान् प्रति ॥

चक्रदत्त ।

¹ अष्टकट्वर तैलम् । पलाश्या पिप्पलीमूलनागरादष्टकट्वर । तैलप्रस्थ समी दध्ना
गृह्यसूत्रगृह्यपह । अष्टकट्वरतैलेऽन्त तैल सर्पपनिष्यते ॥ चक्रदत्त ।

According to Susruta, it is aromatic, carminative, stimulant and astringent. It sweetens the breath, improves the voice and removes all foulness from the mouth. According to other writers it acts as an aphrodisiac.

Medicinally it is said to be useful in diseases supposed to be caused by deranged phlegm and its juice is much used as an adjunct to pills administered in these diseases, that is, the pills are rubbed into an emulsion with the juice of the betle leaf and licked up. Being always at hand, *pan* leaves are used as a domestic remedy in various ways. The stalk of the leaf smeared with oil is introduced into the rectum in the constipation and tympanitis of children, with the object of inducing the bowels to act. The leaves are applied to the temples in headache for relieving pain, to prurient and swollen glands for promoting absorption, and to the mammary glands with the object of checking the secretion of milk. *Pan* leaves are used as a ready dressing for foul ulcers which seem to improve under them.

NAT. ORDER CONIFERÆ

PINUS WEBBIANA, Wall

Syn. Abies Webbiانا, Lindl

Sans. तालीशपत्र, *Talisapatra*, *Vern.* *Talispatra* Beng. *Hind.*

THE dried leaves used by Kavirajas under the name of *tālishapatra*, were identified at the herbarium of the Royal Botanic Garden to be the leaves of *Pinus Webbiانا*. They are single, spirally arranged all round the branchlets, flat, narrow, linear, one to three inches long, one line broad, narrowed into a short terete petiole, under side with two longitudinal furrows on either side of the raised midrib, upper side shining. The Sanskrit term *talisapatra* has been hitherto translated by most writers on Botany and Materia Medica, as *Flacourtia cataphracta*. The error originated probably in Wilson's Sanskrit-English dictionary and has since been repeated by subsequent writers. This medicine is regarded as carminative, expectorant and useful in phthisis, cough and asthma.

The powdered leaves are given with the juice of *Justicia Adulata* (राम/) and honey in cough, asthma and hemoptysis¹ A confection called *Tibbana Jurna* is prepared with *Tibbana*, black pepper, long pepper, ginger, bamboo manna, cardamom, cinnamon and sugar, and is used in the above mentioned diseases² These leaves enter into the composition of numerous complex prescriptions

PINUS LONGIFOLIA, *Roab*

Sars सरस, Sarala, Vern Char, Saral, Hita

The aromatic wood of *Pinus longifolia* is used in Hindu medicine. The tree yields an oleo-resin called *sarala dreena*, *serasa* and *ashura* in Sanskrit. In the vernacular it is called *genda bura*. Dr. Royle remarked, "The *char* exudes or yields to incisions a very fine turpentine. This is chiefly valued by the natives for its resin, and as the latter is only obtained by exposing the turpentine to heat, the oil, the more valuable product is dissipated to procure the resin, but by adopting a very simple still, the resin was obtained as good as ever for the purposes of the natives while the oil of turpentine which distilled over was pronounced on being sent to the General Hospital of Calcutta, to be of very superior quality." Turpentine is now distilled by the natives in the Panjab but the distilled oil is not mentioned by Sanskrit writers.

The wood of *Pinus longifolia* is considered stimulant, diaphoretic and useful in burning of the body, cough, fainting and ulcerations, it is generally used in combination with other medicines

¹ तालीशचूर्णसयुक्तं पेयं क्षीद्रेण वासकस्त्रसः । कफपित्ततमकश्वासस्वरभेदश्च पित्तहरः ॥ चक्रदत्तः ।

² तालीशाद्यचूर्णम् । तालीशमरिचशुण्ठीपिप्पलीवणलीचना । एकद्वित्रिचतुःपञ्चकर्षभोगान् प्रकल्पयेत् । एलातलीचोस्तु कर्षार्धं प्रत्येकं भागमावहेत् । द्वात्रिंशत्कर्षतुलितं प्रत्याशकराबुधं । तालीशाद्यमिदं चूर्णं पाचनरीचनसूतम् । कासश्वासज्वरहरं कृद्यतीसारनाशनम् । शोषामानहरं व्रीहयहणीपाण्डुरोगजित् । पक्कावाशकराचूर्णं विपित्स्यादशुटिकावतः ॥ शार्ङ्गधरः ।

The oleo resin or crude turpentine is used in the preparation of plasters, ointments and pastiles for fumigation. It is applied to buboes and abscesses for promoting absorption. The following is an example of a pastile containing crude turpentine. Take of crude turpentine, bdellium, wood of *Aquilaria Agallocha* (*aguru*), and resin of *Shorea robusta*, and make into pastiles. These are used for fumigating unhealthy and painful ulcers¹

CEDRUS DEODARA, *Loud*

Pinus Deodara, *Roxb*

Sans देवदारु, *Devadaru* *Vern* Deodar, *Hind*

THE aromatic wood of this elegant pine is considered carminative, diaphoretic, diuretic and useful in fever, flatulence, inflammation, dropsy, urinary diseases, etc. It is chiefly used in combination with other medicines. The following is an example of a diuretic mixture containing this drug. Take of *devadaru* wood, root of *Moringa pterygosperma* (*signu*) and *Achyranthes aspera* (*apamarga*), one drachm each and reduce to a paste with cow's urine. This composition is given in ascites²

NAT ORDER PALMACEÆ

COCUS NUCIFERA, *Linn*

Sans नारिकेल, *Narikela*, *Vern* Nariel, *Hind* Narikel, *Beng*

THE numerous economical uses of this valuable tree are fully detailed in standard works. I will refer only to such of them as are mentioned in Sanskrit medical works. The water of the unripe fruit is described as a fine-flavoured, cooling, refrigerent drink useful in thirst, fever and urinary disorders. The tender pulp of the fruit is said to be nourishing, cooling and diuretic. The pulp of the ripe fruit is hard and indigestible but is used

¹ श्रीवासगुग्गुलुगुरुशालनियामधूपिता । कठिनत्व व्रणा यान्ति नश्यन्तुःप्रायः
वेदना ॥ चक्रदत्त ।

² देवद्रुम शिग्रुमयूरकञ्च गामूत्र पिष्टानयवाश्मन्धाम् । पीत्वाथ हन्यादुदरं प्रहृष्टं
क्रिमीन् सशोयानुदरञ्च दध्यम् ॥ चक्रदत्त ।

medicinally. The terminal bud of the tree is esteemed as a nourishing, strengthening and agreeable vegetable. The same remark applies to the tops of *Tal* palm and date trees. The root of the cocoa nut is used as a diuretic as also in uterine diseases. Cocoa nut oil is said to promote the growth of hair. It is much used as a hair oil by the lower classes of native women. For this purpose it is scented by steeping in it a number of fragrant vegetable substances sold in packets under the Bengali name of *Mot'ghasa*. The ashes of the leaves are used in medicine. They contain a great deal of potash. The fresh juice of the tree is considered refrigerent and diuretic. The fermented juice constitutes one of the spirituous liquors described by the ancient writers. The cleared shell of the nut or portions of it are burnt in a fire and while red hot, covered by a stone cup. The fluid deposited in the interior of the cup is rubefacient and is an effectual domestic remedy for ringworm.

*Narikelakhanda*¹ Take of the pounded pulp of cocoa nut, half a seer, fry it in eight tolas of clarified butter, and afterwards boil in four seers of cocoa nut water till reduced to a syrupy consistence. Now add coriander, long pepper, bamboo manna, cumin seeds, nige'lla seeds, cardamoms, cinnamon, *tejaputra*, the tubers of *Cyperus rotundus* (*mustaka*), and the flowers of *Mesua ferrea* (*mughasara*) one tola each in fine powder and prepare a confection. Dose, two to four tolas, in dyspepsia and consumption.

BORASSUS FLABELLIFORMIS, Linn

Sans ताल, *Tala*, तण्डराज, *Trinaraja* *Pen* *Tal*, *Beng Hind*

THE properties of the various parts of this noble palm are described in detail in Sanskrit works. The root is cooling and restorative. "The saccharine juice obtained by the excision of the spadix or young flowering branch," is when freshly drawn, cooling,

¹ नारिकेलखण्ड । कुडवमितमिह स्यान्नारिकेल सुषिष्ट पचपरिमितसर्पि पाचित खण्डतुल्यम् । निजपयसि तदेतत् प्रस्थमावे विपक्व गुटबद्ध सुशीते शण्णभागान् चिपेत् । अन्याकपिपयलिपयोदनुगाद्विजीरान् शण्ण त्रिजातमिभकेशरवह्निचूर्णम् । रन्ध्र-
स्त्रपिचमसचि चयमसपिच शूल बमि सञ्जलपौष्ट्यकारि हारि ॥ चक्रदत्त ।

sweet and useful in inflammatory affections and dropsy The fermented juice called *tari* or toddy is intoxicating The yellow pulp surrounding the seeds of the ripe fruit is sweet, heavy and indigestible It is extracted by rubbing the seeds over a wooden scratcher, and with the addition of a little lime, it settles into a firm jelly which is a ready mode of taking the pulp It is also made into cakes with flour and other ingredients The young seeds contain a clear watery fluid which is very refreshing and cooling They form one of the edible fruits of the country and are sold in the markets in large quantities when in season The natives after extracting the pulp from the fibres surrounding the ripe seeds, preserve them for some months When the embryo begins to germinate and enlarge, the seeds are cut open and the expanded embryo is extracted and eaten It is cooling, sweet and palatable The terminal bud or top of the *tal* tree is regarded as nutritive, diuretic and tonic The leaves of this palm tree were used for writing on by the ancient Hindus The letters were engraved upon the leaves by a pointed iron instrument This system of writing is still followed to a considerable extent in Orissa where boys in the indigenous patsalis write with iron pens on palm leaves In Bengal the leaves are written upon with pen and ink as on paper The ashes of the flowering stalk are said to be useful in enlarged spleen ¹

ARECA CATECHU, *Linn*

Sans गुवाक, *Guvaka* पुग, *Puga*, क्रमुक, *Kramuka*

Vern Gua, *Supari*, *Beng* *Supari*, *Hind*

THE chief consumption of betel nuts is as a masticatory, alone or in conjunction with betel leaf The unripe nuts are said to be laxative and carminative The fresh nuts when not yet dry in their interior, have intoxicating properties and produce giddiness The dried nuts are masticated They are said to sweeten the breath, strengthen the gums, remove bad tastes from the mouth, and produce a stimulant or exhilarant effect on the system The burnt nuts are used as a tooth powder

Medicinally betel nuts are used in urinary disorders and as an aphrodisiac The Bhivaparakasa gives a preparation called

¹ तालपुष्पमव चार सगुड प्रीहनाशन ॥

Kat mullava jagapata It is a confection made of betel nuts boiled in milk, with the addition of a number of aromatic and stimulant substances supposed to have aphrodisiac properties. Sometimes *Nature* seeds and the leaves of *Cannabis sativa* are added to this confection when it is called *Kat esara modaka*.

Betel nuts are also used as vermifuge. Dose, one fourth toll rubbed into a paste with 2 tolas of fresh lemon juice ¹

PHLOX SYLVESTRIS, *Roxb Sans मञ्जर, Kharjura Vern Khejur, Beng Hind* The *Phlox sylvestris* is indigenous to India and is cultivated for the sake of its sweet sap which is manufactured into *gur* or *jagari*. The imported fruits of *Phoenix dactylifera* are used medicinally as demulcents and expectorants.

NAT ORDER HYPOXIDEÆ

HYPOXIS ORCHIOIDES

Syn Curculigo orchioides, Gaertn

Sans मुषली, Mushali, तालमनी, Talamuli Vern Tallura, Beng Mushali, Hind

THE tuberous roots of this plant are considered alterative, tonic, restorative and useful in piles, debility and impotence. They enter into the composition of several medicines intended to act as aphrodisiacs and restoratives. The following is an example. Take of the root of *Asparagus racemosus* (*satawari*), *Spharantus mollis* (*munditika*), *gulancha*, seeds of *Buta frondosa* (*hastikarna*), and the tuberous roots of *mushali*, equal parts, powder and mix. Dose, about a drachm with honey or clarified butter, in the debility of old age ². The Raja nirghantu mentions two varieties of *mushali*, namely, white and black. The properties of the white variety are said to be inferior to those of the black which is preferred for use as an alterative tonic. Steuart says that the *black* or *syamush* is obtained from *Anilema tuberosum* Hom (Watt). The roots of

¹ अपक्व क्रमुक पिष्ट पीत जम्बोरजं रसे । निहन्ति विड्भव कीट रसं खजूरं जम्बयी ॥ भैषज्यरत्नावली ।

² शतावरी मुखितिका गुड्डी सहस्रिकर्णा सह तालमूली । एतानि कृत्वा सम-भागयुक्तान्याज्येन किवा मधुनावलिह्यात् । जरारुजासृत्युविपुक्तदेही भवेन्नरी वीर्यवलादि-युक्त । विभाति देवप्रतिम, स नित्य प्रभासयी भूरिविहङ्गुडि ॥ भावप्रकाश ।

Bombax Malabaricum and *Asparagus racemosus* are sometimes sold by the native druggists of Calcutta under the name of *suffed musli*. These articles have however separate names and are not designated by the name of *suffed musli* in any native medical work. On the contrary a white variety of *talamuli* or *musali* is, as already noticed, mentioned in the *Raja nirghantu*¹. The tubers of *Curculigo orchoides* become when dry, translucent like ambar. The dried roots were probably considered a separate variety, namely, the white by the ancients

NAT ORDER AROIDEÆ

ACORUS CALAMUS, Linn

Sans वचा, *Vacha*, पञ्चव्या, *Shadgrantha Vern Bach*, *B H*

THE aromatic rhizome or root-stock of *Acorus Calamus* is considered emetic in large doses, and stomachic, carminative and nervine in smaller doses

As an emetic it is administered in doses of about eighty grains with half a seer of tepid salt-water². The following is an example of a prescription for dyspepsia containing this drug. Take of *Acorus Calamus* root, assafoetida, *atis*, long pepper, black pepper, ginger, chebulic myrobalan and *sonchal* salt equal parts, powder and mix. Dose, about half a drachm³. As a stimulant or nervine it is used in combination with other medicines in low fevers, epilepsy and insanity

AMORPHOPHALLUS CAMPANULATUS, Blume

Syn Arum campanulatum, Roxb

Sans शूरण, *Surana*, श्रील, *Olla Vern ol, Beng Hind*

THE *Amorphophallus campanulatus* is cultivated for the sake of its tubers, which are cooked and eaten by the natives like yams or potatoes. The tubers contain an acrid juice which should be

¹ मूलौ च द्विधा प्रोक्ता श्वेता चापरसज्जका । श्वेता खल्वगुणोपेता अपरा च रसायनी ॥ राजनिर्घण्ट ।

² वचा खवणतीयेन वालिरामे प्रशस्यते ॥ चक्रदत्त ।

³ मूलौ विषवृक्षोष्ठीऽङ्गिराभिश्चूर्णितौ पिवेत् । द्विजु प्रतिविषा व्योष वचा सौवर्च-लाभया ॥ चक्रदत्त ।

got rid off by thorough boiling and washing, otherwise the vegetable is apt to cause troublesome irritation in the mouth and fauces. Medicinally, *surana* is considered serviceable in hæmorrhoids, in fact one of its Sanskrit synonyms is *arsoyanti* or the cure of piles. It is administered in this disease in a variety of forms. The tuber is covered with a layer of earth and roasted in a fire, the roasted vegetable is given with the addition of oil and salt¹. Several confections are described such as the *Laghusurana modaka*, *Vrihat surana modaka*, *Surana pindi*, *Kantayata modaka*, etc. These are all confections made of the tubers of *Amorphophallus conopsea* with the addition of treacle and various aromatics and acids.

Scalpa or *Laghu surana modaka*² is thus prepared. Take of black pepper one part, ginger two parts, plumbago root four parts, tuber of *surana* eight parts, treacle sixteen parts, mix together and prepare a confection. Dose, about a tola every morning, in piles and dyspepsia.

SCINDAPSUS OFFICINALIS, *Schott* *Syn. Pothos officinalis*, *Roxb.* *Sans* गजपिप्पली, *Gajapippali* *Vern* *Gajapipul*, *Beng* *Hind*. The shed fruits of this plant pass by the name of *gajapipul*. They are considered aromatic, carminative, stimulant and useful in diarrhoea, asthma and other affections supposed to be caused by deranged phlegm. They are chiefly used as an aromatic adjunct to other medicines.

ALOCASIA INDICA, *Schott*

Syn *Arum Indicum*, *Roxb.*

Sans माणक, *Munaka*, *Vern* *Mankachu*, *Beng* *Mankanda*, *Hind*

THE underground stems of *Alocasia Indica* constitute a valuable and important vegetable of native dietary. The stems

¹ सीरण कन्दमादाय पुटपाकिन पाचयेत् । सतेल खवण देय सद्यस्त्वर्शोविकारणत् ॥
शार्ङ्गधर ।

² खल्यशरणमोदकः । मरिचमहौषधचिन्तकस्य शरणभागा यथोत्तर द्रिगुणा । सर्वसमी गुडभाग सेव्योऽय मोदक प्रसिद्धफल ॥ ज्वलन ज्वलयति जाठरसुन्मूयति शूलगुल्मदान् । नि शेषयति तीपदमर्शांसि नाशकत्वात् ॥ भावप्रकाश ।

sometimes grow to an immense size, from six to eight feet in length and can be preserved for a considerable time. Hence they are of great importance in jail dietary when fresh vegetables become scarce in the bazar or jail garden. They thrive best in shade under the eaves of huts or buildings and beside fences.

Medicinally *manaka* is said to be useful in anasarca, in which disease it is used in the following manner. Take of the powdered meal of *Alocasia Indica* eight tolas, powdered rice sixteen tolas, water and milk, forty eight tolas each, boil them together till the water is evaporated. This preparation called *Mānamanda*, is given as diet¹. No other article is allowed in addition to it except milk. A *ghrita* is also ordered to be made with a decoction and paste of *manaka* but it is not in vogue.

NAT ORDER SCITAMINEÆ

ZINGIBER OFFICINALE, *Roscoe*

Sans आर्द्रक, *Ardraka*, अर्द्रक, *Sringaverā*

Vern Adá, *Beng* Adrak, *Hind*

GINGER is described as acrid, heating, carminative and useful in dyspepsia, affections of the throat, head and chest, piles, rheumatism, urticaria, dropsy, etc. It is much used as a carminative adjunct along with black pepper and long pepper under the name of *trikatu* or the three acrids. The dried root is called *Nagara*, *Sunti* and *Mahaushadha* in Sanskrit. In addition to possessing the properties of ginger it is said to be laxative.

Ginger with salt taken before meals, is highly praised as a carminative. It is said to purify the tongue and throat, increase the appetite and produce an agreeable sensation. Ginger forms the active ingredient of several medicines for dyspepsia and hæmorrhoids.

*Samasarkara churna*² Take of cardamoms one part, cinnamon

¹ दुराण साणक पिप्पल द्विगुणीकृततण्डुलम् । साधितं चौरतोयाभ्यामभ्यसेत् पायस तत । हन्ति वातोदर श्लेष्म ग्रहणी पाण्डुतामपि । सिद्धौ भिषग्भिराख्यात प्रयोगीज्य निरत्यय ॥ चक्रदत्त ।

² समशर्कर चूर्णम् । शण्डिकणामरिचनागदलत्वगेन चूणीकृत क्रमविवर्धितसूई-

two parts, flowers of *Mesua ferrea* (*rara rasat*) three parts, black pepper four parts, long pepper five parts, dried ginger six parts, sugar in quantity equal to all the other ingredients, powder and mix. Dose, about a drachm in dyspepsia, loss of appetite and piles.

Saubhagya suni.¹ Talc of clarified butter, sixteen tolas, milk four seers, sugar six seers and a quarter, dry ginger one seer, boil them together so as to make an electuary. Then add coriander twenty four tolas, fennel seeds forty tolas, *Pimpinella* seeds, cumin seeds, nigella seeds, long pepper, black pepper, ginger, tubers of *Cyperus rotundus*, leaves called *tyagaputra*, flowers of *Mesua ferrea* (*nagakasare*), cinnamon and cardamoms each eight tolas in fine powder, and stir with a ladle till cold. This confection is much used as a carminative tonic in dyspepsia and in disorders of the alimentary canal in females after confinement.

Sunī ghrita.² This is a preparation of ginger made with a decoction and paste of the root, clarified butter and *kanyaka* in the usual proportions. It is said to be useful in rheumatism.

Ādraka khandā. This is a confection made with ginger, clarified butter, milk and sugar with the addition of a number of aromatics in small quantities. It is used in urticaria.

In cephalalgia and other affections of the head, ginger juice

मन्वात् । खादिदिद समसित गुदगाग्निमाद्यकासारचिचसनकण्डछदामयेषु ॥

भावप्रकाश ।

¹ सीभाग्यगुण्ठी । आज्य स्यात् पलद्युग्ममव पयस प्रस्थद्वय खण्डत पञ्चाशत् पल मव चूर्णितमथो प्रलिप्यते नागरम् । प्रस्थात्तं गुडवह्निपाच्य विधिना सुषितय धान्यकात् मिश्र्या पञ्चपल पल क्रिमिरिपी साजाजिजीरादपि । व्योपाभोद्दक्षीरगेन्द्रमुमनस्त्वग्-द्राविडीना पल पञ्च नागरखण्डसज्जकमिदं तत सूतिकारोगहृत् । दृष्ट्वादिज्वरदाह-शीपशमन सन्धासकासापहम् । श्लेहव्याधिविनाशन कृमिहर मन्दाग्निसन्दीपनम् ॥

भावप्रकाश ।

² सर्पिर्नागरकलेकेन सौवीर तञ्जतुर्गुणम् । सिद्धमग्निकर श्रेष्ठमामवातहर परम् ॥

भावप्रकाश ।

mixed with milk is used as a snuff¹ The fresh juice of ginger taken with honey relieves catarrh, cough and loss of appetite²

*Saundhavadya tarla*³ Take of dry ginger forty tolas, rock salt, long pepper root and plumbago root, sixteen tolas each, marking nuts twenty in number, fermented rice water sixteen seers, sesamum oil four seers, boil them together and prepare an oil in the usual way This oil is rubbed externally in sciatica and other forms of rheumatism

ZINGIBER ZERUMBET, *Roxb Sans* सूखयन्त्रि, *Sthula-granthi, Vern Maha barı bach, Hind Beng*

ZINGIBER CASSUMUNAR, *Roxb Sans* वनाद्रक, *Vanadraka, Vern Banada, Beng*

ALPINIA GALANGA, *Linn Sans* कुलिञ्चान, *Kulingjana Vern Kulinyan, Beng Hind*

THE aromatic tubers of these three species are occasionally used as carminative or fragrant adjuncts in complex prescriptions, but they have nothing peculiar in their properties or action

CURCUMA LONGA, *Roxb*

Sans हरिद्रा, *Haridra, निशा, Nisa Vern Halud, B Haldi, H*

THE turmeric plant is extensively cultivated for the sake of its tubers which are an essential ingredient of native curry powders Turmeric pounded into a paste and mixed with oil, is rubbed on the skin to improve its appearance and prevent skin diseases The rubbing of turmeric and oil is an essential part of the Hindu marriage festival as well as of some religious ceremonies Medicinally

¹ नागरकल्कमिश्र चोर नखेन योजित पुसाम् । नानादीपीडूता शिरोरुजा हन्ति तीव्रतराम् ॥ चक्रदत्त ।

² आर्द्रकस्वरस चौद्रयुक्ती वृषणवातनुत् । श्वासकासारुचि हन्ति प्रतिश्याय व्यपीहति ॥ शार्ङ्गधर ।

³ सैन्धवाद्य तैलम् । हे पले सैन्धवात् पञ्च शुण्ढा ग्रन्थिक चित्रकात् । हे हे भल्लात-
कास्थीनि विशतिर्हे तथाढके । आरणालावचेत् प्रस्थ तैलमेतैरपत्यदम् । गृध्रस्यूक्यहा-
शोचिसर्ववातविकारणत् ॥ चक्रदत्त ।

turmeric is used chiefly in skin diseases both externally and internally. Turmeric paste with the addition of a little lime is a popular application to sprains and bruises. A decoction of turmeric is used as a cooling wash in ophthalmia, cloth steeped in it is employed as an eye shade. A paste of turmeric and the leaves of *Justicia Adhateda* (*rasaka*), with cow's urine is rubbed on the skin in prurigo¹. Several other combinations of the sort are in vogue, such as turmeric and *rim* leaves, turmeric and the ashes of the plantain tree, etc. Turmeric is also given internally with cow's urine in prurigo and eczema².

*Haridra-khanda*³. Take of turmeric sixty four tolas, clarified butter forty eight tolas, milk sixteen seers, sugar twelve tolas, and boil them together over a gentle fire in an earthen pot. Then add black pepper, long pepper, ginger, cinnamon, cardamom, *tejapatra*, *balisang* seed*, root of *Iponia Turpeturn* (*marri*), the three myrobalans, flowers of *Mesua ferrea* (*nagkesara*) tubers of *Cyperus rotundus* (*mustaka*) and prepared iron, each eight tolas in fine powder, and prepare a confection. Dose, one tola every morning in prurigo, boils, urticaria, etc. A cure is said to be effected in seven days.

The term *haridradve*, or the two turmeric, signifies turmeric and the wood of *Berberis Asiatica*. They are often used together in compound prescriptions both for external and internal use and their properties are said to be analogous.

¹ कमल सिंहास्यदल सनिशं सुरभिजलन सपिष्टम् । दिवसतयेण निवत क्षपर्वात विनिपनत ॥ चक्रदत्त ।

² हरिद्राकण्टकसंयुक्त गोमूत्रस्य पतहयम् । पियेन्नर, कामधारी कल्मुषामाविनाशनम् ॥ चक्रदत्त ।

³ हरिद्राखण्ड । हरिद्राया पलान्यष्टौ षट्पल हविषा तथा । चौरादकेन संयुक्त खण्डस्याष्टपल तथा । पचिन्मृद्वग्निना वैद्यो भाजने मृन्मये दृढे । विकट विजातकश्चैव क्रिमिघ्न विवृता तथा । विफल केशर सुस्त लौह प्रति पथं पलम् । सक्षूण प्रचिपेचव कर्षमेकलु भक्षयेत् । कण्डू विस्फोट दद्रूणा नाशन परमौषधम् । प्रतप्तकाशनाभासो देही भयति नान्यथा । शीतपित्तोदरद्वैकोठान् सप्ताधादेन नाशयेत् । हरिद्रानासत खण्ड कण्डूनां परमौषधम् ॥ भैषज्यरत्नावली ।

CURCUMA ZEDOARIA, *Roscoe*Syn *C Zerumbet*, *Roxb**Sans* शङ्खी, *Sati*, *Vern Sati*, *Beng Kachur*, *Hind*

THE rhizomes of this plant possess an agreeable camphoraceous smell and warm, bitterish, spicy taste They are considered carminative and useful in fever and skin diseases arising from impure or deranged blood they are generally used in combination with other medicines as also in the preparation of medicated oils "The dry root powdered and mixed with the powdered wood of the *Cæsalpinia Sappan* makes the red powder called *abir* by the Hindustanis, and *phag* by the Bengalis It is copiously thrown about by the natives during the *Huli* or Hindu holidays in the month of March "

CURCUMA AROMATICA, *Salisb Syn C Zedoaria*, *Roxb**Sans* वनहरिद्रा, *Vanaharidra Vern Bankhalud*, *Beng Jedwar*, *Hind*

The rhizomes of this plant are of a pale yellow colour and have an agreeable fragrant smell The Bhavaprakasa describes them as useful in skin diseases and disorders of the blood They are sometimes used in combination with other medicines in these diseases

CURCUMA AMADA, *Roxb Sans* कर्पूरहरिद्रा, *Karpurharida Vern Amada*, *Beng* The Bhavaprakasa mentions this plant under the name of *karpuraharidra*, but the term is not to be found in standard lexicons The fresh root possesses the smell of green mango and is used as a condiment and vegetable Medicinally it is described as cooling and useful in prurigo

ELETTERIA CARDAMOMUM, *White et Maton* Also *Amomum subulatum*, *Roxb Sans* एला, *Ela Vern Elachi*, *Hind Gujarati elach*, *Beng* Cardamoms are largely used as aromatic adjuncts but have no peculiarity deserving of special notice

NAT ORDER MUSACEÆ

MUSA PARADISIACA, *Linn*Variety of *Musa Sapientum*, *Linn**Sans* कदली, *Kadali*, रम्भा, *Rambha Vern Kala*, *Beng Kela*, *Hind*

THE economical uses of this most valuable plant are too well-known to need any notice here I will refer only to one of them

The leaves and leaf stalks when burnt yield alkaline ashes which can be used instead of country soap or fuller's earth, in washing clothes. In the Noakhally jail, the old leaves are collected, dried and burnt to ashes. The ashes being placed on a piece of cloth supported on four posts, water is made to percolate through them into an earthen vessel. The alkaline water thus obtained is used for steeping clothes intended to be washed. As the stems of the plantain are cut down soon after the fruit is gathered, there is always a large quantity of leaves and stalks available in all gardens where it is cultivated. They can be readily economised in the simple method above described, if not manufactured into cloth or paper.

The unripe fruit, called *mochaka* in Sanskrit, is considered cooling and astringent, it is much used in diabetes in the form of a *ghrita* prepared as follows —

Kadalyadi ghrita ¹ Take of plantain flowers twelve seers and a half, watery juice of the root stock of the plantain tree sixty-four seers, boil them together till reduced to one fourth and strain. To the strained decoction add four seers of prepared clarified butter and the following substances in the form of a paste, namely, unripe plantains, cloves, cardamoms, red sandal wood, wood of *Pinus longifolia*, (*sarala*), *jatamansi* root, the three myrobalans, *Raphanus sativus* (*mulaka*), and the fruit of *Feronia elephantum* (*kapittha*) in equal parts, one seer in all, and prepare a *ghrita* in the usual way. This medicine is generally given along with some preparation of tin or other metallic medicine in diabetes. Dose, about two tolas.

NAT ORDER ORCHIDACEÆ.

VANDA ROXBURGHII, R Br

Syn Cymbidium tessaloides, Roxb

Sans राम्ना, *Rāsna*, गन्धनाकुली, *Gandhanakuli Vern* *Rasna*, B H

UNDER the name of *rāsna*, the roots of *Vanda Roxburghii* and *Acampe papillosa*, are both indiscriminately used by

¹ कदल्यादि घृतम् । कदलीकन्दनिर्यासे ततःप्रमृत्तुला पचेत् । चतुर्भागावशेषेऽस्मिन् घृतं प्रस्य विपाचयेत् । चन्दनं सरलं मासी कदलीमूलकं तथा । ऐला खवङ्गं त्रिफला

native physicians They are very similar in the appearance of their roots and leaves, though they differ much in their flowers and fruits One native physician whom I consulted, pronounced both these plants to be *rásná*, when however I showed him the different flowers and fruits of the two species, he was puzzled He had never looked to the flowers before, but only knew the roots and leaves These epiphytes are very common on mango trees

Rásná root is said to be fragrant, bitter and useful in rheumatism and allied disorders, in which it is prescribed in a variety of forms

*Rasnápanchaka*¹ Take of *rasna*, *gulantha*, *devadaru*, ginger, and the root of the castor oil plant in equal parts, and prepare a decoction in the usual way This is apparently a popular prescription for rheumatism, being mentioned by most writers

*Rasná guggulu*² Eight parts of *rásna* and ten of bdellium are beaten into a uniform mass with clarified butter Dose, about a drachm, in sciatica —

Rásná enters into the composition of several medicated oils for external application in rheumatism and diseases of the nervous system, such as the *Mahamrisha taila*, *Madhyama Nardiyana taila*, etc.

NAT ORDER LILIACEÆ.

ALOE INDICA, Royle

Sans घृतकुमारी, *Ghritakumári*, कन्या, *Kanya*

Vern *Ghritakumári*, *Beng Ghikumári*, *Hind*

ALOES (called *mushabbar* in the vernacular), though now used in native medicine, was unknown to the Sanskrit writers They

कपित्थफलमेव च । कल्केनानेन ससिद्ध सोमरोगनिवारणम् । मूत्ररोगानशेषाश्च
प्रभृतान् शुक्रपिच्छिलान् । प्रमेहान् विशतिश्चैव मूत्राघातास्तथोदश । बहुमूत्र
विशेषेण मूत्रकृच्छ्रं तथाश्मरीम् । कदल्यादि घृतं नाम विशुद्धा परिकीर्तितम् ॥

रातीयसारसंघः ।

¹ राक्षापञ्चकम् । राक्षान्मृता महादारु नागरैरुण्डजं शतम् । सप्तधातुगते वाते
सामे वाह्नाङ्गणे पिवेत् ॥

² राक्षयास्तु पलैश्चैक कर्षान् पञ्च च गुग्गुलीः । सर्पिषा वटिका कृत्वा खादेद्वा
गृध्रघीहराम् ॥ चक्रदत्त ।

mention only the fresh juice of the leaves which is regarded as cathartic, cooling, tonic and useful in fevers, enlarged lymphatic glands, spleen and liver, eye diseases, etc. The fresh juice is never used in making up various sorts of pill masses and more particularly those of a purgative character, as for example the preparation called *Satavari ghrita*, described under Mercury (see page 32). In glandular enlargement and spleen disease, the juice of the leaves is given with the addition of powdered turmeric.¹

ASPARAGUS RACEMOSUS, H777

Sans. शतावरी, *Satavari*, शतवरी *Satavari*

fern *Satamul*, Bug *Satavari*, *P*

THE Sanskrit name *satamul* (that is possessing a hundred roots), is in allusion to the numerous fusiform tubers of this plant. These are regarded as cooling, demulcent, diuretic, tonic and aphrodisiac, and are used both internally and in the preparation of several medicated oils. The tubers are candied and taken as a sweet meat. This preparation however has scarcely any other taste or flavour besides that of the sugar. The fresh juice of the root is given with honey as a demulcent in bilious dyspepsia or diarrhoea.² As an aphrodisiac tonic, it is used in a variety of forms. A *ghrita* is prepared as follows —

*Satavari ghrita*³ Take of clarified butter four seers, juice of *Asparagus racemosus* four seers, milk forty seers, boil them together and prepare a *ghrita*. This is given with the addition of sugar, honey, and long pepper.

Phalaghrita This is prepared with four seers of clarified butter, and sixteen seers each of the juice of *Asparagus racemosus* and cow's milk, with the addition of a number of other medicines in small quantities, in the form of a paste. Its use is said to increase the secretion of semen, to cure barrenness in women and to remove disorders of the female genitals.

¹ निशाचूर्णयुत कन्यारस प्रीतिपचोदर ॥

शार्ङ्गधर ।

² शतावर्याश्च मधुना पित्तशूलहरी रस ॥

शार्ङ्गधर ।

³ शतावरीघृतम् । घृत शतावरीगर्भं क्षीरे दशगुणे पचेत् । शर्करापिप्पलीक्षीद्र-
युक्तं तद्वैद्यसंघे ॥

चक्रदत्त ।

As a diuretic, it is prescribed in combination with other medicines of its class. The following is an illustration. Take of the roots of *Asparagus racemosus*, *Saccharum spontaneum* (*kusa*), *Poa cynosuroides* (*kusa*), *Oryza sativa* (variety called *salidhanya*) and *Saccharum officinarum* (*ikshu*), *Batatus paniculatus* (*vidari*), *Scirpus Kysoor* (*kaseruka*), and *Tribulus terrestris* (*gokshura*) equal parts, and prepare a decoction in the usual way. This decoction is administered, with the addition of sugar and honey, in scanty urine with heat and ardor urinæ¹. The juice of this drug taken with milk is useful in Gonorrhœa². The chief use of the drug however consists in the preparation of several popular cooling and emollient medicated oils for external application in disorders of the nervous system, rheumatic affections and urinary diseases.

Nirayana taila,³ popularly known as *Madhyama narayana taila* is made by taking of the bark of *Egle Marmelos* (*vulva*), *Premna spinosa* (*agnimantha*), *Calosanthus Indica* (*syonaka*), *Stercospermum suaveolens* (*pa'alā*), *Erythrina Indica* (*paribhadra*) *Paderia fatida* (*prasariini*), *Withania somnifera* (*asvagandha*), *Solanum Jacquini* (*kantakari*), *Solanum Indicum* (*vrihati*), *Sida cordifolia* (*bala*), *Sida rhombifolia* (*atibala*), *Tribulus terrestris* (*danshtia*) and *Boerhaavia diffusa* (*punarava*), each twenty tolas, water sixty-four seers, and boiling down till reduced to one fourth and straining. To the

¹ शतावरी काश कुश श्वदद्रा विदारी शालीक्ष कशेरुकाणाम् । काथ सुशीत मधुशर्कराक्त पिवन् जयेत् पित्तकर्मवृक्षम् ॥ चक्रदत्त ।

² शतावय्या रस नीला जीरेण सह य पीवेत् । प्रमेहा विणतिसस्य चय यान्ति न सशय ॥

³ नारायण तैलम् । विलाभिन्मन्थ्यशोणकपाटलापारिभद्रक । प्रसारण्यश्वत्था च ब्रह्मीकण्टकारिका । बला चातिवला चैव श्वदद्रा सपुनर्नवा । एषा दशपलान् भागान् चतुर्द्विंशेभ्यः पचेत् । पादश्रेष्ठ परिस्त्राव्य तैलपात्र प्रदापयेत् । शतपुष्पा देवदारु मासो शैलियक वचा । चन्दन तगर कुष्ठभेलापणीचतुष्टयम् । राक्ष्ता तुरगगन्धाच सेन्धव सपुनर्नवम् । एषा द्विपलिकान् भागान् पेपयित्वा त्रिनिचिपेत । शतावरीरसश्चैव तैलतुल्यं प्रदापयेत् । आज वा यदि वा गव्य जीर दत्त्वा चतुर्गुणम् । पाने वस्त्रौ तथाभ्यङ्गे भोज्ये चैव प्रशस्यते । अश्वो वा वातसमग्रो गजो वा यदि वा नर । पङ्कज पीठसपी च तैलेनानेन सिञ्चति । अधोभागे च वे वाता शिरोमध्यगताश्च यै । दन्तशूलि हनुस्तम्भे मन्दास्तम्भे गलगृहे । यस्य शुष्यति चैकाङ्ग गतिर्यस्य च विह्वला । एतत्तैल-वरं तेषां नाम्ना नारायण स्मृतम् । तगर नतसत् स्यादभावे शीघ्रलिङ्गीपठ ॥ चक्रदत्त ।

strained decoction add four seers each of the juice of *Asparagus racemosus* and prepared sesamum oil, sixteen seers of cow's or goat's milk and the following substances, namely, fennel seeds, wood of *Cedrus Diodora* (*devadaru*), jatamansi root, liquid storax, *Acorus Calamus* (*racala*), sandal wood, *Limnætherum cristatum* (*tagarapaduka*), *Aplotaxis auriculata* (*kushila*), cardamoms, *Desmodium gangeticum* (*salaparni*), *Urtica lagopodioides* (*prishniparni*), *Phaseolus trilobus* (*mudgaparni*), *Glycine labialis* (*rasiajarni*), *Withania somnifera* (*asvagandha*), *Vanca Roxburghii* (*rasna*), *Boerhaavia diffusa* (*punarnava*) and rock salt, four tolas each in the form of paste and prepare an oil in the usual way. When ready, boil again with fragrant substances as directed in the introduction under the head of Medicated oils. This oil is much used by native physicians in rheumatism, diseases of the joints, stiff neck, hemiplegia and other diseases of the nervous system.

Vishnu taila This is an oil much used in nervous diseases. It is prepared with sesamum oil, cow's or goats' milk, and the juice of *Asparagus racemosus*, with the addition of a number of substances in small quantities in the form of a paste.

Prameha mihira taila This oil is prepared with the juice of *Asparagus racemosus* sesamum oil, decoction of lac, whey and milk with the addition of a number of substances in the form of a paste. It is rubbed on the body and more particularly over the pubic region in chronic gonorrhœa, stricture of the urethra, and other diseases of the urinary organs.

ALLIUM SATIVUM, Linn

Sans रश्मन, *Rasuna*, लश्मन, *Lasuna*

Vern *Rasun*, Beng *Lasun*, Hind

GARLIC is described as carminative, stomachic, alterative, tonic and useful in affections of the nervous system, flatulence, hysteria, etc. During its use, the diet should consist of wine, meat and acids.

*Decoction of garlic*¹ Take of garlic thirty two tolas, water

¹ साधयेच्छुद्धशुष्कस्य लश्मनस्य चतुःपलम् । क्षीरोदकेऽष्टगुणिते क्षीरशेषञ्च पाययेत् । वातगुणसुदावर्त्तं गृध्रसी विषमन्वरम् । हृद्ग्रीवा विद्रधि शोष शमयत्याशु तत्पय । एवमु साधिते क्षीरे स्त्रीकमप्यत्र दीयते ॥

four seers, milk four seers, boil together till the water is evaporated and strain This decoction in milk is given in small doses in hysteria, flatulence, sciatica and heart disease

Svalparasuna pinda ¹ Take of garlic twelve tolas, assafoetida, cumin seeds, rock salt, *sonchal* salt, ginger, long pepper and black pepper, each one-eighth of a tola, powder them finely and mix Dose, about twenty-two grains every morning with a decoction of the root of the castor oil plant, in facial paralysis, hemiplegia, sciatica, paraplegia and convulsive affections This medicine should be continued for a month

Garlic juice slightly warmed is used as a local application in otalgia A bulb of garlic is sometimes introduced into the meatus for relief of pain in the internal ear ²

GLORIOSA SUPERBA, Linn

Sans लाङ्गलिका, *Langalka*, अग्निशिखा, *Agnisikhā*, कलिकान्ति, *Kalikānti*.

Vern Bishalanguli, *Beng* Karihāri, *Hind*

"THE *Gloriosa Superba* is a native of the forests of India. It appears during the rainy season in Bengal, and is one of the most ornamental plant any country can boast of" Its bulb is one of the seven minor poisons of Sanskrit writers (see page 7) One of its Sanskrit synonyms is *Garbhaghātini* or the drug that causes abortion, but I am not aware of its being used as an abortive for criminal purposes The root, powdered and reduced to a paste, is applied to the navel, supra-pubic region and vagina with the object of promoting labour pains ³ In retained placenta a paste

¹ खल्वरसीनपिण्ड । पलमई पलचैव रसीनस्य सुकुट्टितम् । द्विद्रुजीरकसिन्धुत्वै सौवञ्चलकटुवयै । चूर्णितैर्मापकीन्मानैरवचूर्ण्य विलीङ्गितम् । यथाग्निभक्षित प्रातारु-
क्ताद्यानुपानत । दिने दिने प्रयोक्तव्य मापमेक निरन्तरम् । वातरोग निहन्त्याय
अर्द्धित सापतन्त्रकम् । एकाङ्गरोगिणे चैव तथा सर्वाङ्गरोगिणे । उरुस्तम्भे च गृध्रस्थां
क्रिमिकीढे विशेषतः । कटीपृष्ठामय हन्यादुदरञ्च विशेषत ॥ चक्र ।

² लघुनाद्रकशिग्रूणा खरस' श्रेष्ठ कटुणा कर्णपूरणे ॥ चक्रदत्त ।

³ पाठा लाङ्गलिसिंहास्य मयूरकजटै पृथक् । नाभिवस्तिभगालिपात् सुख नारी-
प्रसूयते ॥ चक्र ।

of root is applied to the palm and soles, while powdered nigella seeds and long pepper are given internally with wine¹ This root enters also into the composition of some complex prescriptions for internal use, as for example the *Jangali gupika* described in the Bhavaprakasa

NAT ORDER SMILACEE

SMILAX CHINA, Linn

Sans चीवचिनि, *Cl* *badam Vern* *Chortin Hind*

FUCKIGER and Hambury state that "the use of this drug as a remedy for syphilis was made known to the Portuguese at Goa by Chinese traders about A.D. 1535" If this statement, which is given on the authority of Garcia d'orta, is correct, the history of this drug will enable us to fix the approximate age of the latest and most comprehensive treatise on Sanskrit Medicine, namely, the Bhavaprakasa In this work China root is described under its vernacular name of *chobhuta*, as a root like *Acorus Calamus*, brought from a foreign country and useful in rheumatism, epilepsy, insanity and particularly in syphilis² It is used in modern Hindu medicine as an alterative along with *arantamul* and other drugs of reputed efficacy in syphilis and rheumatism

NAT ORDER CYPERACEÆ

CYPERUS ROTUNDUS, Linn

Sans सुमरु, *Mustaka Vern* *Mutha, Beng* *Motha, Hind*

CYPERUS PERGENUIS, Roxb *

Sans नागरसुमरु, *Nagaramustaka, Vern* *Nagarmutha, Beng* *Hind*

THE tubers of these two species of *Cyperus* are much used in Hindu medicine *Cyperus rotundus* is the most common variety

¹ मूलेन लाङ्गलिक्या, प्रलिप्त पाणिपादे च । अमरापातन मयेः पिप्पल्यादिरज
पिवेत् ॥ चक्रदत्त ।

² चीवचीनी । क्षीपान्तरगता किञ्चित् तिक्तीष्णा वज्रिदीप्तिकृत् । विवम्बाभान
गूलघ्नी शकन्मृत्विशीधनी । वातव्याधिनपच्यारमुन्माद तनुवेदनाम् । व्यपीहित
विशेषेण फिरङ्गामयनाशिनी ॥ भावप्रकाश ।

* The *Cyperus pergenius* of Roxburgh can hardly be maintained as a species, it is a variety of the *C rotundus* of Linnæus G K

and is used internally Its tubers are about the size of a pigeon's egg and of a dark brown colour externally, internally white and fragrant Those growing in moist soil are preferred for use The root of *Cyperus pertenuis* is somewhat tuberous with many dark coloured villous fibres It grows in low wet places and is chiefly used in the preparation of medicated oils The properties of both are said to be identical They are considered diaphoretic, astringent, stomachic and useful in fever, diarrhoea and dyspepsia The tubers of *Cyperus rotundus* are extensively used as an aromatic adjunct to numerous compound medicines

*Shadanga panya*¹ Take of the tubers of *Cyperus rotundus*, red sandal wood, root of *Andropogon muricatus*, (*usira*), *Oldenlandia herbacea*, (*parpata*), *Pavonia odorata* (*balā*) and dry ginger each one drachm, water two seers, boil down to one seer This decoction is given as a drink for appeasing thirst and relieving heat of body in fever It may be taken *ad libitum*

NAT ORDER GRAMINEÆ

SACCHARUM OFFICINARUM, Linn ETC

Sans इक्षु, *Ikshu Vern Ak*, *Beng Uk*, *Hind*

THE sugar cane and its products sugar and treacle were known to the Hindus from a very early age From the Sanskrit term *sarkara* are derived the Arabic *sakkar*, Latin, *saccharum* and English sugar * Twelve varieties of sugar-cane are mentioned by

¹ पडङ्गपानीयम् । सुस्तपटकीशौर चन्दनीदीच्यनागरै । शतशीत जल दद्यात्

पिपासाञ्जरशानये ॥

चक्र ॥

* In the Pharmacographia by Fluckiger and Hanbury it is stated "Candy as sugar in large crystals is called, is derived from the Arabic *land* or *landat* a name of the same signification An old Sanskrit name of Central Bengal is *Gura* whence is derived the word *Gula* meaning raw sugar, a term for sugar universally employed in the Malayan Archipelago, where on the other hand, they have their own names for the sugar cane, although not for sugar This fact again speaks, for Ritter's opinion that the preparation of sugar in a crystalline state is due to the inhabitants of Bengal" The Arabic *land* is apparently derived from the Sanskrit *khanda*, that is treacle candied into white sand like grains Again the Bengali term *Gura* is derived from the Sanskrit *Guda* which is mentioned by such ancient writers as Charaka and Susruta The manufacture of sugar therefore was evidently understood in Upper India before it was known in Bengal, at any rate there is nothing to shew that sugar was first prepared in Bengal

Sanskrit writers, but these can not all be identified at present The products or preparations of the sugar cane, as described by Sanskrit writers, are as follows —

- 1 इक्षुम्, *Ikshu rasa* or sugar cane juice
- 2 फणित, *Phanita* or sugar-cane juice boiled down to one-fourth It can be drawn out in threads
- 3 गुड, *Guda* or sugar cane juice boiled to a thick consistence, that is treacle
- 4 मत्स्यारिका, *Matsyandika* is sugar-cane juice boiled down to a solid consistence but which still exudes a little fluid on drawing
- 5 खण्ड, *Khanda* is treacle partially dried or candied in white sand like grains
- 6 शर्करा, *Sarkara* or white sugar
- 7 शितीपला, *Sitopala* or sugar candy
- 8 गोष्ठी, *Gaudī* or fermented liquor obtained from treacle
- 9 सीधु, *Sidhu* or fermented liquor obtained from sugar cane juice

The properties of these preparations are described separately, but it is scarcely worth while to reproduce those details here The root of the sugar cane is considered demulcent and diuretic Sugar and treacle are very largely used in Hindu Medicine Old treacle is preferred to new, for medicinal purposes

Trinapancha mula ¹ Under this name the roots of five sorts of grasses are used in combination They are as follows —

- 1 इक्षु, *Ikshu Saccharum officinarum*, Linn
- 2 शर, *Sara Saccharum Sara*, Linn
- 3 काश, *Kāsa Saccharum spontaneum*, Linn
- 4 कुश, *Kusa Poa cynosuroides*, Linn
- 5 दर्भ, *Darva Imperata cylindrica*, Beauv Some practitioners substitute the root of *Andropogon muricatus* for that of *Imperata cylindrica* A decoction of these roots is considered demulcent and diuretic and is largely prescribed as an adjunct to metallic medicines in gonorrhœa, strangury and suppression of urine. The following confection is also much used in these diseases

¹ तृणपञ्चमूलम् । कुश, काश, शरी दर्भ इक्षुयेति तृणीकृतम् । मृवकच्छहर पञ्चमूल वल्लिविशोधनम् ॥
भायप्रकाश ॥

*Kusāvaleha*¹ Take of the five roots above mentioned, eighty tolas each, water sixty four seers, boil down to eight seers and strain Then add sugar four seers, and reduce to the consistence of a thick syrup Remove the syrup from the fire and add to it the following substances, namely, liquorice root, cucumber seeds, the seeds of *Cucumis melo* (*karkati*), bamboo-manna, emblic myrobalan, *tejapatra* leaves, cardamoms, cinnamon, bark of *Cratæva religiosa* (*varuna*), *gulantha*, seeds of *Aglaia Roxburghiana* (*priyangu*), and the flowers of *Mesua ferrea* (*nagakesara*), two tolas each in fine powder, stir them well with a ladle and prepare an electuary Dose, one to two tolas

ORYZA SATIVA, Linn ETC

THE following varieties of food grains belonging to this important natural order, are mentioned by Sanskrit writers —

धान्य, *Dhanya Oryza sativa*, Linn Vern Dhan, Beng Hind
गोधूम, *Godhuma Triticum vulgare*, Linn Gam, B Genhu, H
यव, *Yava Hordeum hexastichum*, Linn Jab, Beng Jow, Hind

These three are considered the best of grains The following varieties pass by the name of कुधान्य, *Kudhanya* or inferior grains and क्षुद्रधान्य, *Kshudra dhanya* or minor grains

यावनाल, *Yavanala Holchus Sorghum*, Linn Joár, Janiri, Hind
Joi, Beng

कङ्गु, *Kargu Letaria Italica*, Millet, E Kunth Vern Kángni,
Kawan, B Korá, H

चीन, *China Panicum miliaceum*, Linn Chiná ghas, B

श्यामाक, *Syamaka Panicum frumentaceum*, Roxb Shyámáadhan, B

कोद्व, *Kodava, Paspalum scrobiculatum*, Linn Kododhán, Beng

नीवार, *Nivara* Wild variety of *Oryza sativa*, Linn Uridhán, B

बज्रा, *Penicellaria Spicata Panicum Spicatus*, Roxb Bajra Beng
Hind

¹ कुशवलेह* । कुश काशी वीरणस्र क्षणेक्षु खगडस्तथा । एषा दश पलान् भागान्
जलद्वीये विपाचयेत् । अष्टभागवशिष्टन् कषायमवतारयेत् । खण्डप्रस्य सनादाप
लेहवत् साधु साधयेत् । अवताय तत पश्चात् चूर्णानीमानि दापयेत् । मधुक कर्कटीबीज
कर्काक वपुष तथा । शुभामलकपत्राणि त्वगीला नागकेशरम् । वरुणाम्बता प्रियङ्गुश्च प्रत्येक-
मचसम्मितम् । प्रसेहान् विशति हन्ति सूचाघातास्तथास्मरी । वातिकान् पैत्तिकान्
शैव श्लेष्मिकान् सान्निपातिकान् । इत्यरीचकमन्थुग वर्णपुष्टिकर परम् ॥ भैषज्यरत्नावली ॥

नवेधुका, *Gazdhuca* Some species of *Coix*, *Gazaredhān*, *Berg*
 राज, *Ruga Phusine corana*, *Gaertner Marui*, *Berg*
 दधधान, *Detadha*, *a*, *Andropogon Saccharatus*, *Lin* *Detadān*, *B H*
 वेलाज, *Kuya* Seeds of *Bombusa arundinacea*, *Willd*

चारुक, *Charuka* Seeds of *Saccharum Sara*, *Roxb* *Sarah*, *B*

OAIS—*Arena Sativa* No native or Sanskrit name It is indigenous to Europe and is cultivated in Bengal

ORYZA SATIVA Rice is the principal and often the only food of the great mass of the Indian population *Dhanya* the Sanskrit name of paddy, means the supporter or nourisher of mankind It is regarded as the emblem of wealth or fortune. On a thursday in the month of Pausha (December, January) after the new paddy has been reaped, a rattan made grain measure called *rek* in Bengali, is filled with new paddy, pieces of gold, silver and copper coins, and some shells called *camras*, and worshipped as the representative of the goddess of fortune This apparatus is preserved in a clean earthen pot and brought out for worship on one thursday in each of the following Hindu months, namely, Chaitra, Sravana, and Kartika Such is the form of the domestic goddess of wealth of an agricultural people living chiefly on rice¹

The three principal classes of rice are *Sali* or that reaped in the cold season, *Vrihi* or that ripening in the rainy season, and *Shashika* or that grown in the hot weather in low lands This last is reaped within sixty days of its sowing The varieties of each of these three classes of rice are numerous and confounding *Rakta sali* popularly known as *Daudhani* is the variety of rice that is considered superior to all others and suited for use by sick persons The preparations of rice used in sick diet and described in Sanskrit medical works are as follows —

यवागु, *Yavagu* or powdered rice boiled with water for the use of the sick and convalescent It is made of three strengths, namely, with nine, eleven and nineteen parts of water, called respectively *Vilepi*, *Pyā* and *Manda* Sometimes, instead of water, a decoction of medicinal herbs is used in preparing *yavagu*

¹ पीषे च दशमी शस्ता चैषके पञ्चमी तथा । नभस्ये पूर्णिमा ज्ञेया शुक्रवारे विशेषतः ।

आढक धान्यसम्पूर्य नानाभरणभूषितम् । सुगन्धि शकपुष्पेण शक्तपत्रे प्रपूजयेत् ॥
 कालचन्द्रिका ॥

Thus, for example, if it is ordered to give the patient *yavāgu* made with ginger and long pepper, the process adopted in preparing it is as follows. Take of dry ginger and long pepper, one tola each, boil in four seers of water till reduced to two and strain. Now take nine, eleven or nineteen parts of this strained decoction and one part of powdered rice for making *yavāgu* of the strength ordered.

लाजा, *Lāja*, (*Vern Khai*), is paddy fried in a sand bath. The husks open out and the rice swells into a light spongy body. It is considered a light article of diet suited to invalids and dyspeptics.

भृष्टरडुल, *Bhūṣṭa tandula*, (*Vern Muri*) is rice fried in a sand bath. This is also a light preparation of rice and is given to sick persons as a substitute for boiled rice. It is also much used by the poorer classes for tiffin and early breakfast.

पृथुक, *Prithukā*, (*Vern Churā*) To prepare this, paddy is moistened and lightly fried. It is then flattened and husked. This preparation of rice is given with curdled milk (*dadhu*) in dysentery. It is well washed and softened in water or boiled before use.

पायस, *Payasa* is a preparation of rice with nine parts of milk.

तण्डुलासु, *Tandulambu* is water in which unboiled rice has been steeped. This sort of rice-water is sometimes prescribed as a vehicle for some powders and confections.

The products of the acetous fermentation of rice and other grains have been already described in the introduction.

TRITICUM VULGARE, *Linn*. Three varieties of wheat are mentioned in the *Bhāvaprakāśa* namely *Mahagodhuma* or large grained, *Madhukā* or small grained¹ and *Nihśukā* or beardless, that is without awn. The first variety is said to come from the west and the second to be indigenous to the middle region comprising the modern provinces of Allahabad, Agra, Delhi, Oudh, etc. Wheat is considered the most nutritive of the food-grains, but less easily digested than rice.

HORDEUM HEXASTICHUM, *Linn*. Barley though less esteemed than wheat is more employed in the dietary of the sick. It is chiefly used in the form of *saktu* or powder of the parched

¹ मधूलक खल्यगीघूम इति सटीकद्रव्यगुण ॥ ११७ ॥

grains. Gruel prepared with *sattu* is said to be easily digested and to be useful in painful dyspepsia

ZLA MAYS, *Zinn* called *matar* in the vernacular has no Sanskrit name. It is indigenous to America but is now largely cultivated in Behar and Upper India

The minor food grains are not of any importance in a medicinal point of view. They are used as food by the poorer classes or for cattle

Old rice is preferred to new as being lighter and more easily digested, but new wheat and barley are considered superior to old. These are said to lose in flavour and taste by long keeping

Poultices made of rice, barley or wheat flour, with the addition of oil or clarified butter, are applied to abscesses for hastening suppuration ¹

ANDROPOGON MURICATUS, *Retz*

Sans उशीर, *Usira*, वीरण, *Uraha*,

Vern Bena, *Beng* Khas, *Hind*

THE root of this plant is well known as the *khas khas* root of which *tatis* or door screens are made for watering during the hot weather. It is described as cooling, refrigerant, stomachic and useful in pyrexia, thirst, inflammation, irritability of stomach, etc. It enters into the composition of several cooling medicines, as for example, the preparation called *Shadanga fanya*, (see *Cyperus rotundus*). A weak infusion of the root is sometimes used as a febrifuge drink.

Externally it is used in a variety of ways. A paste of the root is rubbed on the skin to relieve oppressive heat or burning of the body. This use of the drug appears to have been popular with the ancients. Kalidassa in his drama called *Sakuntala* alludes to it as will appear from the passage quoted below ². An

¹ तेलेन सर्पिया वापि ताभ्या वा शङ्खपिण्डिका । सुखीण शीथपाकार्थसुपनाह.

प्रशस्यते ॥

चक्र ।

² क्षनन्त्युशीर प्रशिथिलरुणालैकवलदम् । पिपाया साबाध तदपि कमनीय

वपुर्दिदम् ॥

शकुन्तला ।

aromatic cooling bath is prepared by adding to a tub of water the following substances in fine powder, namely, root of *Andropogon muricatus*, *Patonia odorata* (*bala*), red sandal wood, and a fragrant wood called *padma kashika*¹ The same medicines are reduced to a thin emulsion with water and applied to the skin²

ANDROPOGON SCHÆNANTHUS, *Linn.* Sans भूस्तण, *Bhustrina*, Vern *Gandha bena*, Beng

ANDROPOGON IWARANCUSA, *Roeb* Sans लामज्जक, *Lamajjaka* Vern *Lamjak*, Hind *Karankusá*, Beng

These two fragrant grasses are occasionally used as aromatics and refrigerants like the roots of *Andropogon muricatus* *A schænanthus* is common in Bengal, being cultivated in gardens for the sake of its fragrant leaves *A Iwarancusa* is "a native of the skirts of the Northern mountains of India" Its virtues seem to reside in the larger roots marked with annular cicatrices

BAMBUSA ARUNDINACEA, *Willd*

Sans वस, *Vansa* Vern *Báns*, Beng Hind

THE siliceous concretion found in the joints of the female bamboo is called वस रोचन, *Bansa rochana* in Sanskrit, and is described as sweet, cooling, tonic, aphrodisiac and useful in cough, consumption, asthma, fever, etc It enters into the composition of numerous compound prescriptions for affections of the lungs The following is an illustration

*Sitopaladi churna*³ Take of bamboo-manna eight parts, long

¹ क्लीवेर पत्रकोशीर चन्दनचोदवारिणा । सपूर्णमवगाहेत द्रोणी दाहार्दितो नर ॥

चक्रदत्त ।

² प्रदेहा परिषेकाश्च शस्यन्ते पञ्चवल्कलै । पत्रकोशीर मधुक चन्दनैर्वा प्रशस्यते ॥

चक्रदत्त ।

³ सितीपलादिचूर्णम् । सितीपला षोडश स्यादष्टौ स्याद्वशलोचना । पिप्पली स्याच्चतु कर्षा चतुर्दश स्याद् द्विकाषिकी । एककर्षस्वच कार्य्यचूर्णयेत् सर्वमेकत । सितीपलादिक चूर्ण मधुसर्पियुत लिहेत् । आसकासचयहर हस्तपादाङ्गदाहजित् । मन्दाग्नि सुप्त- जिह्वाश्च पात्रशूलमरीचकम् । ज्वरमूर्द्धगत रक्तपित्तमाश व्यपोहति ॥

शार्ङ्गधर ।

pepper four parts, cardamom, two parts, cinnamon one part, sugar sixteen parts, powder the ingredients and mix. Dose, about a drachm with honey and clarified butter. This preparation is given in phthisis with pain in the sides, hæmoptysis, loss of appetite and burning of the hands and feet.

CYNODON DACTYLON, *Pers Sans दृति, Durra Iam. Durba, Beng Dub, Hind*. This elegant and most valuable grass like many other useful vegetables, has a niche in the temple of the Hindu religion. Medicinally the fresh juice of the leaves is considered astringent, and is used as a snuff in epistaxis¹. The bruised grass is a popular application to bleeding wounds.

PRODUCTS OF FERMENTATION AND DISTILLATION

WINES AND SPIRITS

All fermented and distilled liquors causing intoxication, are called *Madya* or *Madira* in Sanskrit. The following varieties are mentioned by the later writers.

मार्धक, *Maddhika*, or spirit distilled from grapes

खार्जूर, *Kharjura*, do do dates

गंडी, *Gandi*, do do treacle

शोध, *Sidhu*, do do sugar-cane juice.

सुरा, *Sura*, do do rice.

कोहल, *Kohala*, do do barley (ययमनुक्तिष्वहवम् ।)

मधुलिका, *Madhulika*, do do wheat

पेष्टी, *Paishi*, do do from different sorts of grain

मधूकपुष्पोत्थ, *Madhuka pushpottha*, do do the flowers of

Bassia latifolia and treacle

जाम्बव, *Jambava*, do do ripe fruits of *Eugenia Jambolana*

कादम्बरी, *Kadambari*, do do flowers of *Anthocephalus*

Cadamba

वाल्कली, *Valkali*, do do belleric myrobalan and treacle.

वारुणी, *Varuni* is the fermented juice of the palm and date trees

¹ नम्य दाडिभपुष्पोत्थो रसी दूर्वामवोदयवा । आसास्थिज पलाण्डोवा नासिका-
सुतरकजित् ॥

आक्षिकी, *Akshiki* or spirit from rice with the addition of the bark of *Terminalis Bellerica*

श्वेता, *Sveta* means liquor from rice of white colour सुरा, *Sura* being red

मैरेय, *Moireya* or a sort of spirituous liquor from the blossoms of *Lythrum frutescens* with sugar, etc

अरिष्ट, *Arishtha*, Vinous spirit or more properly Tincture of drugs

आसव, *Ashaba*, Vinous or fermented liquor from sugar or molasses
Rum

प्रसन्ना, *Prosanna*, is the clear upper portion of *sura* According to some it is liquor distilled from rice with the addition of medicinal herbs

Some of these spirituous liquors have several varieties Thus two varieties of *sīdhu* are mentioned, namely, that produced from boiled sugar cane juice and that from the unboiled juice The liquor distilled from rice receives different names according to its consistence The clear transparent fluid which floats on the top is called *prasanna*, that below it, is called *kādambāni*, *jagala* is a thicker fluid than *kādambāni*, *medaka* in the thickest and weakest of all The forms of medicated spirituous liquors have been already described in the introduction, (see page 13)

Spirituous liquors are described as stimulant, sedative, agreeable, heating, intoxicating, digestive and nourishing They are easily assimilated but injurious to health in hot climates New wine is disagreeable to the taste and smell, unpleasant in its effects, not easily assimilated, laxative, heating and injurious to health Old wine is agreeable, light and appetizing It promotes the circulation of the fluids in the vessels and renders the senses acute In amiable and virtuous men, wine promotes mirth and a desire for musical entertainments In passionate men it gives rise to rashness and evil actions Used at the proper season, in proper doses and with suitable food, wine acts like nectar If taken to excess it induces a host of diseases Medicinally, spirituous liquors are said to be useful in emaciation, debility, anæmia, urinary diseases, dyspepsia, chronic bowel complaints, chronic fever, deficient secretion of milk, etc

A mixture of ginger, cumin seeds, treacle, wine and warm water is given in ague with prolonged cold stage¹ In chronic intermittent

¹ गुग्गुलाजाजी गुड पिष्ट पोतसुखेन वारिणा । नीर्यमयेन तक्रेण पीत श्रोतञ्जर जयेत् ॥
भावप्रकाश ।

fever with debility, spirit distilled from rice, together with the flesh of fowls is recommended to be given as diet by most writers, but their advice is not followed in the present day ¹ Several preparations of spirit distilled from treacle with the addition of various medicinal and aromatic substances are used in different diseases. The following is an example

Mritasanyuvani sure ² Take of new treacle eight hundred tolas and steep it in thirty times its weight of water. Add to the mixture the following substances in the form of a paste, namely, ginger sixteen tolas, bark of *Alacia Arabica* two seers, of *Zizyphus Jujuba* (kola) two seers, of *Symplocos racemosa* (lodhra) half a seer, betel-nuts as many as desired, stir in a large earthen vessel, and keep the mixture for twenty days in a covered jar. After this period remove the fermented fluid to a distilling apparatus, and add to it, the following aromatic substances, namely, betelnuts, cloves, sandal wood, cumin seeds, *ajowan*, black pepper, ginger, nutmegs, cardamoms, cinnamon, *tejapatra* leaves, fennel seeds, nigella seeds, the fragrant substances called *clavatulka*, *padma kashtha* and *granti ipari*, *devadaru* wood, *khas khas* root, *redoary* root, *jalamansi* root and the tubers of *Cyperus rotundus* (*mustaka*), each eight tolas, in coarse powder, and distil. This distilled liquor is used as a tonic, astringent and invigorating drink.

¹ सुरां समग्रा पानार्थं भक्षार्थं चरणायुधान् । तित्तिरीय मयूरीय प्रयुज्याद्विष-
मन्त्रे ॥ चक्र ।

² मृतसञ्जीवनी सुधा । नूतन गुडमादाय शतमेक पल तथा । जलमष्टगुण दत्त्वा
स्थापयेत् सृण्वे घटे । वावरीत्वचमादाय बदरीत्वचमेव च । प्रस्थ प्रस्थ प्रदातव्य
पूग देय यद्योचितम् । लोभ्रश्च कुडव दत्त्वा चार्द्रकश्च पलद्वय । गुड सगोलकं कृत्वा दापयेत्
बुद्धिमान् भिषक् । प्रथमे चार्द्रक देय द्वितीये वावरीत्वच । तृतीये बदरी दत्त्वा
गोलयित्वा भिषग्वर । सुखे शत्रवश्च दत्त्वा यत्र कृत्वा च बन्धन । सुखसवन्धन
कृत्वा स्थापयेद्द्विनिविंशति । सृण्वे मोक्षिकापात्रे मगूरस्थे च यन्त्रके । यथाविधि
प्रकारेण मन्दमन्देन वज्रिना । वृक्षमध्ये विधातव्य सृणिकाट्टभाजने । तदीपधश्च
तन्मध्ये उद्धरित्वा विनिक्षिपेत् । कुम्भमध्ये निधातव्य पूगश्च सैलवालुक । देवदारु
खवङ्गश्च पद्मकीश्रीर चन्दन । शतपुष्पा यमानी च भरिच जीरकद्वय । शटी मासी
त्वगीला च जातीफलसमुत्तक । यन्त्रिपर्णी तथा गुह्यी मेथी मेथी च चन्दन । एषा
चार्द्रपलान् भागान् कुट्टयित्वा विनिक्षिपेत् । यथाविधि प्रकारेण चानल दापयेत्
सुधी । बुद्धिमान् शोधन कृत्वा उद्धरेत् विधिवत् सुधा । एतद्व्य पिबेन्नित्य यथाधातु
यथावय । आरोग्य देहदार्ढ्यं वनस्पृष्टिर्कर सदा ॥ उद्धृतः पाठः ।

THE
MATERIA MEDICA
OF THE HINDUS

PART III.

ANIMAL MATERIA MEDICA

THE LEECH

LEECHES have been employed by the Hindus from a very remote period. Susruta gives a detailed account of their varieties, habits, mode of application, etc. His account of leeches has been translated in full by Dr. Wise. Pundit Madhu Sudan Gupta had also furnished a note on the subject for publication in the Bengal Dispensary. I will not therefore attempt a new translation but will give an extract from Dr. Wise's work. "There are twelve varieties of leeches, six of which are venomous, and six useful. The venomous leeches are found near putrid fish or animals in foul, stagnant and putrescent water. Such leeches are consequently to be avoided. The good leeches are found in clear and deep pools of water which contain water lilies, and are surrounded with sweet smelling plants. The middle sized leeches are the best. These leeches are to be caught on a piece of leather or cloth, and placed in a new water pot in which some clay and pure water has been put. Some grass or leaves of aquatic plants are to be placed in the pot for them to lie upon, and the roots of water lilies and dry flesh are to be given them for food. The water is to be changed every third day, and the water pot every seventh day. If the leeches do not fix quickly, apply a drop or two of milk or blood to the part, or make one or two very slight scarifications, which will induce them to fix themselves more readily. When the leeches

are sucking, sprinkle a few drops of cold water upon their bodies. When the leeches have removed the necessary quantity of blood, sprinkle a small quantity of salt upon their heads to make them drop off. Put the gorged leeches upon some dry bran, put a little oil and salt upon their mouths and then strip them. Put them next in fresh water and, if they are lively, they will live and may be used again, but if they are languid, they will soon die and they should therefore be at once thrown away. The part upon which the leeches have been is to be smeared with honey, cold water and astringent substances. In other cases poultices may be applied."

I AC

Sans लाक्षा *Laksha* Vern *Lakh*, *Hua Gul*, Beng

THE lac insect (*Coccus lacca*) has been known to the Hindus from a very ancient period. The *Butea frondosa* is called *Lakshataru* or lac plant in Sanskrit, this being the principal tree in which lac is said to be produced. The fluid lac dye obtained by dissolving the crushed stick lac in water is called *Alakta*. It is used in colouring silk. Cotton coloured with this dye and pressed into flat circular pieces is sold in the bazars under the name of *Alad* and is used in printing the hands and feet of Hindu females. Shell lac is used in the preparation of sealing wax, varnish for carpenters and ornaments for women. Shell lac, finely powdered, half-a-tola, mixed with honey and prepared in the form of an electuary is given in *Hæmatemesis*¹. A decoction of shell-lac is much used in the preparation of several medicinal oils, such as *Lakshadi taila*, *Chandanadi taila*, *Angāraka taila*, etc.

*Lakshaditaila*² Take of shell lac two seers, water sixteen seers,

¹ लाक्षाचूर्णं सुकृत चौद्राज्यसमन्वितं सङ्गक्षीढम् । शस्यति सीदतवसनं सरक्तपित्तस्य सिद्धमिदम् ॥

² लाक्षादि तैलम् । लाचारसप्तम तैल तेलान्मस्तु चतुर्गुणम् । अश्वगन्धा निशा दारु कौन्ती कुष्ठान्द चन्दनै । समूर्ध्वा रोहिणी रास्ना शताह्वा मधुकै समे । सिद्ध लाक्षादिक नाम तैलमभ्यञ्जनादिना । सर्वज्वरक्षयीन्माद आसापसार वातनुत् । यच्च राक्षस भूतान् गर्भिणीना च शस्यते ॥

boil till reduced to four seers and strain To this decoction of shell lac add four seers of prepared sesamum oil, sixteen seers of whey, and two tolas each of the following substances, namely, *Withania somnifera* (*asvagandhā*), turmeric, *devudaru* wood, root of *Sansevieria Zeylanica* (*murva*), *Pandanus odoratissimus* (*ketaki*), *Vanda Roxburghii* (*rasna*), dill seeds and liquorice root in the form of a paste and prepare an oil in the usual way, lastly add four tolas of camphor This oil is much used for inunction in chronic fever and consumption The other oils containing lac are prepared in a similar way, with the addition of various medicinal substances in the form of paste

HONEY AND WAX

Sans मधु, *Madhu*, माविह, *Makshuka*

Vern *Madhu*, *Beng* *Shahad*, *Hind*

Eight sorts of honey are described by Susruta, namely

- 1 *Makshuka* or the honey collected by the common bee called *madhumakshukā*
- 2 *Bhramara*, or the honey collected by a large black bee called *bhramara*
- 3 *Kshaudra*, or honey collected by a sort of small bee of tawny colour, called *Kshudra*
- 4 *Puttika*, or honey collected by a small black bee resembling a gnat, and called *puttika*
- 5 *Chhatra*, or honey formed by tawny or yellow wasps which make their hives in the shape of umbrellas
- 6 *Argha* or wild honey collected by a sort of yellow bee like the *bhramara*
- 7 *Auddilaka* is a bitter and acrid substance like honey found in the nests of white ants
- 8 *Dala* or unprepared honey found on flowers

Of these varieties the first four only are described by recent writers and the first alone is used in medicine New honey is considered demulcent and laxative Honey more than a year old is said to be astringent and demulcent Old honey is preferred

to new. It is much used in the preparation of confections and electuaries, and as an adjunct to decoctions, pills and powders.

Wax, called *sitha* in Sanskrit, is used in the preparation of ointments and *ghritas* for external application.

SERPENT POISON

Sais सर्पविष, *Sarpacisha*, गरुड, *Gurale*

SERPENT poison has been used in Hindu medicine since a very recent period only. Even the *Bhava-prākasa* which is not more than three centuries old does not mention it. Prescriptions containing it are found in such modern compilations as the *Bhaishajya Ratnabali*, *Sirkaumudi*, etc.

The poison of the black cobra (*Naga tripudians* Vern *Keule sap*, Beng.) is used. It is collected by making the reptile bite on a piece of stick or wood when the poison is poured out and received on a piece of plantain leaf. It is preserved in two ways. The liquid poison is allowed to congeal and dry in a cup or it is rubbed with a fourth part of mustard oil and spread out on a piece of plantain leaf. Thus treated it rapidly coagulates into a granular agglutinated mass of a yellowish brown colour. When allowed to dry spontaneously, serpent poison coagulates into shining, crystalline yellowish white granules. It is used in complicated fever in combination with arsenic, aconite and other medicines. Numerous formulæ containing this poison are given in recent compilations. The following are a couple of examples.

*Suchikā bhāṣana rasa*¹ Take of mercury, sulphur, prepared tin, aconite and cobra poison, equal parts, mix them together and soak the mixed powder in the bile of *rohita* fish (*Cyprinus Rohita*), wild boar, peacock, buffalo and goat successively and make into a pill mass. This medicine is administered in doses

¹ सूचिकाभरणो रसः । रसगन्धक नागश्च विष स्यावरजज्जसम् । मातृस्यवाराह-
मायूरक्षागपिसेद्य भावयेत् । सूचिकाभरणो नाम भेरवेण प्रकीर्तितः । सूचिकाग्रेण
दातव्यं सन्निपातकुलान्तक ॥
भैषज्यरत्नावली ।

that can be taken up by the point of a needle, hence it is called *suchukābharana*. It is given in remittent fever with cerebral complications

*Kālānala rasa*¹ Take of black cobra poison, sulphur, white arsenic, aconite, black pepper, long pepper, ginger, borax, mercury, prepared iron and copper equal parts, soak them in the five kinds of bile mentioned above and make into one grain pills with the juice of *datura* root. These are given in fever with coma, delirium and drowsiness

MUSK

Sans सगनाभि, *Mriganabhu*, कस्तूरी, *Kasturi*

THE Bhavaprākāsa describes three varieties of musk, namely, *Kamruṣa*, *Nepala* and *Kashmira* musk. *Kamruṣa* musk is said to be of black colour and superior to the others. It is probably China or Thibet musk brought via Kamroop. *Nepala* musk is described as of bluish colour and intermediate quality. *Kashmira* musk is of inferior quality.

Musk is regarded as stimulant and aphrodisiac and is used in low fevers, chronic cough, general debility and impotence. In low fevers with prostration, two grains of musk with two of *Makara-dhwaja* are given every three hours with the addition of honey.

*Svalpa kasturi bhairava*² Take of cinnabar, aconite, borax, nutmeg, mace, long pepper, black pepper and musk, equal parts

¹ कालानलरसः । अमृत गरल शङ्ख लौह ताम्रञ्च टङ्गण । रस गन्ध वृषणञ्च पञ्चपित्तैर्विभावयेत् । मातुलुङ्गद्रवैर्भाव्य वटिका यवमानत । चौद्रार्द्रकरस्यानु दापयेत् सान्निपातिके । अतितीव्र ज्वर हन्ति सर्वापिद्रवसयुतम् । हरिद्रा तैल समिश्र मर्दयेत् तीव्रतापिनम् । तथा स्नानान्तरे गाढ लेपयेत् गन्धचन्दनम् । दध्यन्न दापयेत् पथ्य द्राक्षादि चाम्पदाडिमम् । कालानलरसी नाम्ना गोप्य परमदुर्लभ ॥

रसरत्नाकरः ।

² सत्यकस्तूरीभैरवरसः । हिङ्गुलञ्च विष टङ्ग जातिकीषफल तथा । मरिच पिप्पली चैव कस्तूरी च समांशिका । रक्तिहय तत खादेत् सन्निपाते सुदारुणे ॥

रसेन्द्रसारसमूहः ।

and make into four grain pills These are given in remittent fever of low type

*Mriganayanaśāleḥa*¹ Take of musk, cardamoms, cloves, cinnamon and dates, equal parts and make into a linctus with honey and clarified butter This is given in hoarseness and loss of speech

*Vasantatāḥaka rasa*² Take of prepared gold one part, talc and tin two parts each, iron three parts, the preparation of mercury called *rasasindura* and calcined pearls and coral, four parts each, mix them together, soak for seven days in the juice of sugar cane, of the fruits *Tribulus terrestris* (*gēstūna*) and of other strengthening vegetables Enclose the mass in a covered crucible and roast it in a sand bath for three hours Lastly, add to it four parts of camphor and four of musk and make into four grain pills These are given as an alterative tonic in a variety of diseases, but more especially in chronic affections of the lungs supposed to be caused by deranged phlegm

CIVET CAT

Sans गन्धमार्जार, *Gandha marjara* Vern *Khatasi, Beng*

THE pouch of the civet cat (*Viverra Zibetha, Linn*) contains an unctuous odorous secretion which is extracted and used in perfumery

¹ मृगनाभ्यादिरवलीङ्ग' । मृगनाभि सप्तजीला लवङ्गकुसुमानि च । त्वक्चीरी चेति लीङ्गीड्य सधुसर्पि समायुत । वाक्स्तम्भमुय जयति स्वरभसमन्वितम् ॥

भावप्रकाश ।

² वसन्ततिलकरस । ऐम्बी भक्षकमभक्तां द्विगुणित लीङ्गास्त्रय पारदा चत्वारो नियतन्तु वङ्गयुगल चैकौकृत मर्द्दयेत् । सुक्ताविद्रुमयो रसेन समता गीचुर वासिष्णुणा सर्वं व्यक्करेण तेन सुदृढ तप्तत् पचेत् समधा । कस्तूरी घनसारमर्द्धितरस पश्चात् सुसिद्धो भवेत् । कासश्वास सपित्त वात कफजित् पाण्डुजयादीन् हरत् । शूलादिग्रहणी विषादिहरण मेहाम्शरी विशति । हृद्रोगापहरी ज्वरारुचिहरी हृष्यो वयोवृद्धक' श्रेष्ठ पुष्टिकरो वसन्ततिलको मृगज्येनोदित' । अयमपि मारात्मककफरोगे प्रसिद्ध ॥

रसेन्द्रसारसयत् ।

The pouch together with the secretion contained in it, are used by native physicians in scenting medicated oils

HARTSHORN Sans मृगशृङ्ग, *Mrigasringa*

THE antler of the deer incinerated in closed vessels is used in painful affections of the heart, pleurodynia, sciatica and lumbago It is given in doses of about twenty-two grains with clarified butter Burnt hartshorn leaves 57.5 per cent of phosphate of lime¹

MILK AND ITS PRODUCTS

THE properties of the milk of various animals are described in great detail by Sanskrit writers Milk in general is considered cooling, nutritive, strengthening and vitalizing Cow's milk is pleasant to take and very wholesome It promotes memory, strength and longevity and increases the secretion of semen Buffalo's milk is said to be sweeter, heavier and more cooling than cow's milk It induces sleepiness, spoils the appetite and brings on cold Goat's milk is sweet, cooling and astringent It promotes the digestive power and is useful in hæmorrhagic diseases, phthisis, bowel complaints, etc Ewe's milk is saltish, disagreeable and not easily digested Mare's milk is saltish, acidulous and easily digested Ass's milk is saltish, easily digested, and useful in debility and urinary complaints Camel's milk is light, sweet, saltish, laxative and useful in dropsical affections Human milk is light, cooling, nutritive, strengthening and useful as a collyrium or wash in eye diseases All milk except human milk should be taken boiled Warm milk just as it comes out from the teats is said to be like nectar

As an article of diet, milk is considered demulcent, laxative, and especially adapted for children, old men, consumptive people or those reduced by debauchery, for women who are suckling and for patients suffering from chronic fever, mental diseases, dyspepsia,

¹ शरावसपुटे दग्ध शृङ्ग हरिणज पिवित् । गव्येन सर्पिषा पिष्ट दृच्छूल नश्यति भुवम् । शार्ङ्गधर ॥ दग्धमनिर्गतधूस मृगशृङ्ग गोवृतेन सह पीतम् । हृदयनिवन्धजगल हरति शिखी दारुनिवहसिन्ध ॥

diarrhœa, urinary complaints, ascites and anasarca. A pure milk-diet to the exclusion of every other article (not excepting even salt and water) is often prescribed in the later stages of anasarca, ascites and chronic bowel complaints. Along with this milk diet, some sort of medicine, such as *Dugdla vati*, *Sarnaparpati* or *Mara manda*, is usually prescribed.

तक्र *Takra* or butter milk. Four sorts of butter milk are described, namely *ghola* or pure butter milk without admixture of water, *takra* or butter milk with one-fourth part of water, *vāṣṭi* or that mixed with half its bulk of water, and *cllachenika* or very dilute butter milk. The second form called *takra* is used in medicine and as an article of sick diet. It is regarded as astringent, light, cooling, appetizing, nutritive, tonic, and useful in diarrhœa, dysentery, dyspepsia, urinary diseases, ascites, poisoning, etc. It is not suited to the weak, or consumptive nor to those suffering from fever and nervousness. The habitual use of butter milk is said to be conducive to health and a preservative against disease.

दधि *Dadhi* or curdled milk is prepared by adding some acid or a little curdled milk as a ferment to milk previously boiled. In the course of twelve hours the whole of the milk thus acted upon is changed into a more or less thick, acidulous, jelly like mass. It is considered agreeable, digestive and cooling, and is much used as an article of diet by all classes of natives. Taken to excess it causes biliousness and catarrh. It is useful in fever, diarrhœa, dysentery, urinary disorders and disinclination for food.

ससु *Mastu* or whey is said to have properties similar to those of curdled milk. In particular it is said to favour the circulation of the animal fluids and to be useful in constipation.

किलटक *Kilataka* or curd of milk (*Vern chhena*, *Beng*) is hard of digestion, but is nourishing, tonic and suited to persons with strong digestive powers.

सन्तानिका *Santanika* or cream is also hard of digestion but nourishing, agreeable and demulcent.

नवनीत *Navanita* or butter is tonic, astringent, invigorating, stomachic and useful in phthisis, piles, facial paralysis, etc. It agrees best with the old and young.

घृत *Ghrita* or clarified butter is much used both as an article of diet and in pharmacy. Clarified butter obtained from cow's milk is considered superior to that prepared from the milk of the buffalo and is preferred for medicinal use. Clarified butter is considered cooling, emollient and stomachic. It increases the fatty tissues and mental powers, improves the voice, beauty and complexion and is useful in eye diseases, retained secretions, insanity, tympanites, painful dyspepsia, ulcers, wounds, etc. It is the basis of a form of medicinal preparation called *ghritapaka* already described in the introduction, (see page 14)

पुराणघृत *Purāṇa ghrita* Clarified butter more than ten years old, passes by this name ¹ It has a strong pungent odour and the colour of lac. The longer this old butter is kept the more efficacious it is said to prove as an external application. Clarified butter a hundred years old is often heard of. The richer natives always have a stock of old *ghrita* of this description which they preserve with care for their own use as well as for distribution to their poorer neighbours. I have seen some specimens of old clarified butter which were quite dry and hard and nearly inodorous. They looked more like some sort of earth than an animal substance. Old clarified butter is used externally. It is first repeatedly washed with cold water, and then rubbed with it till it is reduced to a soapy frothy fluid which is used as a liniment. It is regarded as cooling and emollient and is much used in nervous diseases such as insanity, epilepsy, neuralgia, paralysis, cephalalgia and asthma, in rheumatic affections, stiff joints, burning of the body, hands or feet, affections of the eyes, etc ²

The following treatment is recommended for reducing the temperature of the skin in strong fever. The patient's body should be anointed with an emulsion of sandal wood and of old clarified butter that has been washed a hundred times in cold

¹ उन्मादहृती दृष्टाः वा पुराण वैकक घृतम् । उग्रगन्ध पुराण स्याद्दशवर्षस्थित घृतम् । लाचारसन्निभ शीत प्रपुराणमत परम् ॥ चक्र ।

² शतधीत घृताभ्यङ्ग शीतवातादिसेवनम् । शीतस्पर्शाश्च ससेव्या सदा दाहार्त्ति- शान्तये ॥ चक्र ।

water. He should then enter a tepid bath for a short while. His bedding should be made of the leaves of *Nourba spora* (*laiala*)¹

BILE

Sans विष, *Pitta*

THE bile of the buffalo, wild boar, goat, peacock and *rotala*-fish (*Cyprinus Rotala*), is used in medicine, either singly or in combination under the designation of *Purita Pitta* or the five biles. Bile is considered laxative and is chiefly used in cooling powders intended for being made into pill masses.

*Udakan ariya rasa*² Take of mercury, sulphur, calcined borax, and black pepper each one part, sugar and the bile of *rotala* fish, four parts each, rub them together for three days and make into six grain pills. These are given with ginger juice in recent bilious remittent fever. If there is much heat of head, cold water should be applied to it. For other preparations containing bile, see under serpent poison, page 278.

गोरीचना *Gorochana*, or the concretions found in the gill-bladder of the ox, are considered cooling, aromatic and useful in abortion and diseases supposed to be caused by evil spirits. *Gorochana* is sometimes given to infants in small doses as a laxative. It enters into the composition of some medicines for skin diseases.

URINE *Sans* मूत्र, *Mutra*

THE properties of the urine of various animals, such as the cow, buffalo, goat, sheep, horse, elephant, ass and camel are minutely described. Of these, cow's urine is much used both internally and externally, in the purification of various metals and in the

¹ शोताम्भ सानुशतशश्च विलोडितेन गव्येन चन्दनयुतेन धनेन दिग्धा । दाहज्वरी सकमलीतूपलमास्यधारी क्षिप्रं यिशेत् सलिलकोष्णमनल्पकालम् ॥ काञ्जिकार्द्रपटेनाव-
गुह्येन दाहनाशनम् ॥ दर्पण ॥

² उदकमञ्जरीरस । सूत गन्धद्वयं सीषणश्च सञ्चैतुल्या शर्करा मत्स्यपित्ते । भूयोभूयो मर्दयेत् तत् त्रिरात्र वल्ली देयं शङ्खवेरद्रवेण । तीयं शीतं वीजनैस्तक्रभक्तहन्ताकाय-
पथ्यमेतत् प्रदिष्टं । अङ्गे वीयं हन्ति सद्यज्वरन्तु पित्ताधिक्यं सूक्ष्मं तीयञ्च दद्यात् ॥

रसप्रदीप. ॥

preparation of oils, decoctions, etc. It is described as laxative, diuretic and useful in constipation, suppression of urine, colic, anasarca, jaundice, leprosy and other skin diseases. Goat's urine is sometimes given internally as for example in the prescription quoted under *Nardostachys jatamansi*. In congestive fever with constipation, flushed face and headache, an ounce of fresh and warm cow's urine is given as a domestic medicine. It is sometimes given as the vehicle for administering castor oil, (see page 231). Cow's urine is used in the preparation of various medicines for jaundice, anasarca and allied diseases. The following is an illustration

*Punarnava mandura*¹ Take of *Boerhaavia diffusa* (*punarnava*) *Ipomœa Turpethum* (*trivrit*), ginger, long pepper, black pepper, *babrang* seeds, *devadâru* wood, plumbago root, *patchak* root, the three myrobalans, turmeric, wood of *Berberis Asiatica*, (*daruharidra*) root of *Baliospermum montanum*, (*danti*), *Piper Chaba* (*chavikâ*), *indrayava* seeds, root of *Picroirhiza Kurroa* (*katuki*), long pepper root and the tubers of *Cyperus rotundus* (*mustaka*), equal parts, iron rust in weight equal to twice that of all the other ingredients, mix them together and boil the mixed powder in eight times its weight of cow's urine till the watery part is evaporated. Dose, about twenty-two grains, in jaundice, ascites, anasarca, enlargements of the abdominal viscera, painful dyspepsia, etc.

Marichadya taila Take of mustard oil four seers, cow's urine sixteen seers, aconite eight tolas, orpiment, realgar, black pepper, milky juice of *Calotropis gigantea* (*asla*), root of *Nerium odorum* (*karavira*), root of *Ipomœa Turpethum* (*trivrit*), colocynth root, *Aplotaxis auriculata* (*kushtha*), turmeric, wood of *Berberis Asiatica* (*daruharidra*), *devadâru* wood, and red sandal wood, each four tolas, and prepare an oil in the usual way. This oil is said to

¹ पुनर्नवामण्डूरम् । पुनर्नवा विहङ्गूष्ठी पिप्पली मरिचानि च । विडङ्ग देवकाष्ठञ्च चित्रक पुष्कराक्षयम् । विमला द्वे हरिष्ठे च दन्तीञ्च चविकान्तथा । कुटनस्य फलं तिक्ता पिप्पलीमूत्रं सुस्तकम् । एतानि सप्तभागानि मण्डूरं द्विगुणं ततः । गोमूत्रेऽष्टगुणे पक्वा स्थापयेत् क्षिप्तभाजने । पाण्डुशोथोदरानाह शूलार्शः क्षिप्तिगुणानुत् ॥

be useful in leucoderma, chronic prurigo and other obstinate skin diseases¹

ANIMAL FLESH

In describing the properties of the flesh of various animals, Sanskrit writers divide them into two classes, namely *वायव्य जन्तु* or land, and *जलजन्तु* or water animals. Animals living on land are sub divided into eight orders as follows — *विराड्* or animals living in the wilderness as deers, antelopes, etc

विनस्या, *Vinasya*, or animals living in holes under ground, as serpents, lizards, porcupines, etc

गुहाशया, *Guhasaya* or animals living in caverns, as tigers lions, bears, etc

पर्यायगा, *Parayaga* or animals living on trees, as monkeys squirrels, etc

विष्किरा, *Vishkira* or birds which take their food after tearing or scattering it, as peacocks, quails, partridges, etc

प्रतुंदाः, *Pratunda* or birds which strike with their beaks, as pigeons, wag tails, cuckoos, etc

प्रसङ्गा, *Prasanga* or birds of prey, as the hawk, falcon, etc

ग्राम्या *Gramya* or domestic animals, as ox, goat, horse, sheep, etc

Animals living in water or marshy lands are sub divided into five classes as follows —

कुलेचरा, *Kulechara*, or animals grazing in marshes, as buffalos, yak, rhinoceros, etc

प्लवा, *Plava*, or birds which swim in water, as geese, ducks cranes, etc

कोशस्था, *Kosastha*, or animals enclosed in shells, as conch-shells, bivalve-shells, etc

पादिन, *Padina*, or footed aquatic animals as tortoise, crocodile, porpoise, etc

¹ मरिचाद्य तैलम् । मरिचालशिलाह्वार्कपयोऽश्वारिजटा विहत् । शङ्खद्रवविशाला-
रुङ्निशायुग् दारुचन्दने । कटुतैलात्पचेत्प्रस्य ह्यर्चेर्विशत् पलान्वितै । सगोमूत्र तदभ्य-
ङ्गाद्दुग्धं शिवविनाशनम् । सर्वेष्वपि च कुष्ठेषु तैलमेतत् प्रशस्यते ॥ चक्रदत्त ।

मत्स्य, *Matsya*, or fishes

Of these classes, *Jāngalā* or animals living in the wilderness, and *Vishkīra* or birds which scatter their food are considered superior to the others in an alimentary point of view. The different properties of the meat of various animals are described by Sanskrit writers in great detail. The flesh of the goat, domestic fowl, peacock and partridge is said to be easily digested and suited to the sick and convalescent. The meat of the deer, sambar, hare, quail, and partridge is recommended for habitual use. Fish, beef and pork are considered hard to digest and unsuited for daily use.

The flesh of various animals is used in medicine chiefly in the form of *ghrita* or *taila pāka*. The following is a list of the more important and commonly used *ghritas* and oils made with the flesh of different animals.

Hansadī ghrita, prepared with the flesh of geese, and used in cephalalgia and nervous diseases.

Kukkutadī ghrita, prepared with the flesh of fowls, and used in chronic cough.

Siva ghrita, prepared with jackal's flesh and used in insanity.

Chhagaladī ghrita, prepared with goat's meat, and used in nervous diseases.

Sāmbukadī taila is an oil prepared with the flesh of snails and used externally in ear diseases.

Nakuladya ghrita is prepared with the flesh of the mungoose and used in nervous diseases.

The following are two illustrations of preparations with animal flesh.

*Chhagalādya ghrita*¹ Take of goat's meat six seers and a quarter, the ten drugs called *dasamula* six seers and a quarter in

¹ छागलाद्य घृतम् । आज चर्मविनिर्मुक्तं त्यक्तशङ्खनखादिकम् । पञ्च मूलीद्वयञ्चैव जलद्रोणे विपाचयेत् । तेन पादावशेषेण घृतप्रस्थं विपाचयेत् । जीवनीयै सयध्वाह्नौ चौरञ्चैव शतावरी । छागलाद्यमिदं नाम्ना सर्व्वातविकारनुत् । अर्द्धिते कर्णशूलं च वाधिव्ये मूकमिन्दिने । जङ्गदगदं पङ्गुना खञ्जे रघ्नसिक्नुजयो । अपतानेऽपतन्त्रे च सर्पिरेतत् प्रशस्यते । अथ यष्टिमधु भागद्वयमिति शिवदास ॥

all, water sixty four seers, boil till the latter is reduced to one fourth and strain. Take of clarified butter, milk and the juice of *Synanas racemosus* (*salamili*), four seers each, and the following substances in the form of a paste, namely, *Tinospora cordifolia* (*garul*), bamboo manna, *Uttaria samarita* (*astagradia*), *Hemidesmus Indicus* (*suria*), berries called *Isaboli*, bulbs called *Isirciboli*, pulse of *Phaseolus trilobus* (*narari*), and of *Glycine abilis* (*maslon*) *Calogyne ovatis*, (*jarati*), and liquorice root, one seer in all, boil them together and prepare a *grita*. This preparation is given in facial paralysis, deafness, loss of voice or indistinct speech, convulsions, hysteria, sciatica, paralysis and other diseases of the nervous system.

*Masha taila*¹ Take of goat's meat eight seers, water sixty four seers, boil together till the latter is reduced to sixteen seers. Take of the pulse of *Phaseolus Roxburghii* (*masha*), linseed, barley root of *Berberis Priores* (*kurantala*), of *Solanum Jaqueum*, (*luta-kari*), *Tribulus terrestris* (*golshura*), bark of *Calosanthus Indica* (*syonaka*), jatamansi root, seeds of *Mucuna pruriens* (*laptakachenu*), each one seer, water sixty four seers, boil down to sixteen seers. Take of cotton seeds, seeds of *Crotalaria juncea* (*sara*), pulse of *Dolichos uniflorus* (*kulattila*), dried pulp of *Liziphus Jujuba* (*kola*), each two seers, water sixty four seers, boil down to sixteen seers. Take of ginger, long pepper, dill seeds, root of *Ricinus communis* (*eranda*), of *Berhaavia diffusa* (*punarnava*), *Paderia fatida* (*prasaram*), *Vanda Roxburghii* (*rasna*), *Sida cordifolia* (*berla*), *Tinospora cordifolia* (*gulancha*) and *Picrorrhiza Kurroa* (*katuki*) equal parts, in all one seer, and reduce them to a paste. Boil the above mentioned decoctions and the paste with four seers of sesamum oil in the usual way. This oil is rubbed externally in convulsions, paralysis, wasting of limbs and other diseases of the nervous system.

¹ सापतेलम् । सापातसी यवकुण्डलक कण्टकारी गीकण्ट टण्डुक बटा कपिकच्छु-
तोये । कार्पासकास्थि शणवीज कुलत्थकीलकाथेन वक्षपिशितस्य रसेन चापि । शृङ्गा
समागधिकया शतपुण्या च सैरलमूल सपुनर्नवया सरख्या । राज्ञा बलात्त लता
कटुकेर्विपक्व सापात्वमेतदववाहुहरञ्ज तेलम् । अर्द्धाङ्गोष्मपतानक माद्यवातमाक्षेपक
सभुजकम्पशिर प्रक्षम्पम् । नयनेन वक्षिविधिना परिषेचनेन हयात् कटीजघन ज्ञानुस्त्रज
समीरात् ॥

भेषज्यरत्नावली ।

A
GLOSSARY
 OF
INDIAN PLANTS
MENTIONED IN SANSKRIT MEDICAL WORKS
 WITH BENGALI, HINDI AND LATIN
 SYNONYMS

SANSKRIT	VERNACULAR	SCIENTIFIC NAMES
Āchchhuka आच्छुक	Āch, B Āl, H	Morinda citrifolia, Linn and Morinda tinctoria, Roxb
Ādhakī आढकी	Arhar, B Tor, H	Cajanus indicus, Spreng <i>Syn Cytisus Cajan, Linn</i>
Ādityabhakta आदित्यभक्ता	Hurhuriá, B Hurhur, H	Cleome viscosa, Linn <i>Syn Polanisia icosandra, W and A.</i>
Agastī अगस्ति	..	See Vaka
Agnimantha अग्निमन्थ	Ganiari, B Arni, Agetha, H	Premna integrifolia, Linn <i>Syn Premna spinosa, Roxb</i>
Agnisikha अग्निशिखा	.	See Langaliká
Aguru अगुरु	Agar, B Agar, H	Aquilaria Agallocha, Roxb
Ahinsrī अहिंसा	Kántagurkamai, B	Capparis sepiaria, Linn.
Ahiphena अहिफेन	Āphim, B Āphim, H	Papaver somniferum, Linn Opium poppy
Ajamoda अजमोदा	Ajmad, H Randhani, B	Carum Roxburghianum, Benth <i>Syn Apium involucratum, Roxb</i>

SANSKRIT	VERNACULAR	SCIENTIFIC NAME
Akarakarabha आकाराकरभ	Alarará, B H	Anacyclus Pyrethrum, DC Pellitory root
Ākasam nsi आकाशमांसी	• ...	A small variety of Jatamānsi said to be produced in the Kedar mountain
Ākasavalli आकाशवल्ली	Ākasbel, B Amarbeli, H	Cassithe filiformis, Linn
Āl hukarni आलुकर्ण		See Mushukaparni
Ākshota आक्षोट	Akhrot, H B.	Juglans regia, Linn
Alabu अलाबु	Lau, B Lauka, H Mithi tumbi, H	Lagenaria vulgaris, Sering Syn Cucurbita lagenaria, Willd
Alarka अलर्क	Svetakand, B Mīdir, H	Calotropis gigantea, or procera, R Br The varieties with white flowers
Āmrakī आम्रकी	Āmla, B Ānola, H	Phyllanthus Emblica, Linn Syn Emblica officinalis, Garst
Ambashtha अम्बष्ठा	•••	See Patha
Ambuvetasa अम्बुवेतस	Barabet, B	Calamus fasciculatus, Roxb *
Amlalonikī अम्ललोणिका	Āmrul sāk, B H	Oxalis corniculata, Linn
Amlana अम्लाण	Lālgulmakhmal, B	Gomphrena globosa, Linn
Amlavetasa अम्लवेतस	••	See Chukra

* Roxburgh gives ambuvetasa as the Sanskrit for Calamus fasciculatus, but ambuvetasa means rattan growing in water, while Calamus fasciculatus grows in woods and not in marshes. The translation is therefore doubtful. I have not been able to procure the plant.

SANSKRIT	VERNACULAR	SCIENTIFIC NAMES
Amra	Ám, B	Mangifera Indica, Linn
आम्र [haridrā]	Ám, H	The Mango tree
Ámragandhi-		
आम्रगन्धिहरिद्रा	Ámbahaldī, H	Curcuma reclinata, Roxb
Ámrítaka	Ámrá, B	Spondias mangifera, Willd
आम्रातक	Ámbrá, H	Hog plum
Amritaphala	Náshpáti, H	Pyrus communis, Linn
अमृतफल	Nák, Punj	The pear tree
Ananta	Anantamul, B H	Hemidesmus indicus, R Br
अनन्ता		Syn Asclepias pseudosarsa, Roxb
Anjura	Ánjir, H	Ficus Carica, Linn in Bengal,
अञ्जीर		Psidium pomiferum, Linn is called Anjura in Sanskrit
Ankota	Dhalakura, B	Alangium Lamarkii, Thwaites
अङ्कोट	Dhera, H	Syn A Hexapetalum, Roxb
Apámarga	Ápang, B	Achyranthes aspera, Linn
अपामार्ग	Latjur, H	Also A bidentata, Bl
Aparájitā	Aparajita, B	Clitoria Ternatea, Linn
अपराजिता	Visnukranti, H	
Áragbadha	Sondhali, B	Cassia Fistula, Linn
आरग्वध	Amaltas, H	Syn Cathartocarpus fistula, Pers
Aralu,		See Syonáka
अरलु		
Árdraka	Adi B	Zingiber officinale, Rose
आर्द्रक	Ádrak, H	Common ginger
Arimeda	Guibibi, B	Acacia Farnesiana, Willd
अरिमेद	Gandhibul, H	Syn Mimosa Farnesiana, Roxb
Arjuna	Arjun, B	Terminalia Arjuna, Bedd
अर्जुन	Kahu, H	Syn Pentaptera Arjuna, Roxb
Arkamulī	Ishermul, B	Aristolochia indica, Linn
अर्कमूला		
Arka	Ákand, B	Calatropis gigantea or procera, R Br
अर्क	Midir, H	Syn Asclepias gigantea, Willd

SANSKRIT	VERACULAR	SCIENTIFIC NAME
Arkapushpikā अकंपुष्पिका	Arkahuli, B Siddhurhuria, B	<i>Gynandropsis pentaphylla</i> , DC <i>Syn. Chome pentaphylla</i> , Linn.
Arushkara अरुष्कर	.	See Bhallataka.
Asana असन	Pisal, B Asan, H	<i>Fernundia tomentosa</i> , W. and A <i>Syn. Pentaptera tomentosa</i> , Roxb
Ashṭavarga* अष्टवर्ग	.	.
Asoka अशोक	Asok, B II.	<i>Saraca indica</i> , Linn <i>Syn. Jonesia Asoka</i> Roxb
Asthisanhara अस्थिसंहार	Harjora, B Harsankari II	<i>Vitis quadrangularis</i> , Wall <i>Syn. Cissus quadrangularis</i> , Linn
Asvagandhu अश्वगन्धा	Asvagandhu, B Asgandh, H	<i>Withania somnifera</i> , Dunal
Asvakarna अश्वकर्ण	Sul, B II	<i>Shorea robusta</i> , Gaertn
Asvattha अश्वत्थ	Asvattha, B Pipal, H	<i>Ficus religiosa</i> , Linn <i>Syn. Urostigma religiosum</i> , Gasq
Atasi अतसी	Masiná, B Tisi, H	<i>Linum usitatissimum</i> , Linn
Atibala अतिबला	Pitbala, B	<i>Sida rhombifolia</i> , Linn

* This is a collective name for eight medicines, six of which are not available at present. Their names and the articles substituted for those that are not procurable, are as follows —

Medí, मेदि Asvagandha is used in stead.

Mahameda, महामेदा Sariva, „

Jivaka, जीवक Guduchi, „

Rishabhaka, रूषभक Vansalochana, „

Riddhi, रूद्धि Balá, „

Vriddhi, वृद्धि Mahabalá, „

Kakoli, काकोली See under this name

Kshirakakoli, क्षीरकाकोली Do Do

SANSKRIT	VERNACULAR	SCIENTIFIC NAMES
Ativisha अतिविष	Átis, H B	Aconitum heterophyllum, Wall
Átmaguptá आत्मगुप्ता	Álkusi, B Kiwanch, H	Mucuna pruriens, DC <i>Syn Carpopogon pruriens, Roxb.</i>
Avalguja अवलगुज	.	See somaráji
Avartani आवर्तनी	Átmorá, B Mararphali, H	Helicteres Isora, Linn. <i>Syn Isora corylifolia, Schott et End</i>
Badama बादाम	Badám, H B	Prunus Amygdalus, Baill <i>Syn Amygdalus communis, Linn.</i> The almond tree
Badara बदर	..	See kola
Bahuvara बहुवार	Bahuari, B Lasorá, H	Cordia Myxa, Linn <i>Cordia latifolia, Roxb Bara Lasorá.</i>
Bala बला	Bereli, B Khareti, Bariár, H.	Sida cordifolia, Linn
Bila बाला	Bala, H Sugandha Balá, H	Pavonia odorata, Willd.
Bandhuka बन्धूक	Bindhuli, B Dopohoria, H	Pentapetes phœnicea, Linn [Roxb.
Bhadramunja भद्रमुञ्जा	Ramsar, B H	A variety of Saccharum Munja,
Bhadravali भद्रवल्ली	Hiparmali, B	Vallis Heynei, Spreng <i>Syn Echites dichotoma, Roxb</i>
Bhallitaka भल्लातक	Bhela, B Bhilawa, H	Semecarpus Anacardium, Linn The marking nut tree
Bhándira भण्डीर	Bhint, B H	Clerodendron infortunatum, Gaertn. <i>Syn Volkameria infortunata, Roxb</i>
Bhang भङ्गा	Siddhi, B Bhang, H	Cannabis sativa, Linn Var Indica, Indian hemp
Bhantaki भण्टाकी	...	See Vartaku

SANSKRIT	VULGAR	SCIENTIFIC NAME
Bharadvaji भारवाजी		See Vinal arpari
Bhargi भार्गी	Bamanhati, B Bharangi H	Clerodendron Siphonanthus, R Br <i>Syn Siphonanthus Indica, Lamk</i>
Bhavya भव्य	Chalti, B	Dillenia indica, Linn <i>Syn Dillenia sp. cosa, Trumb.</i>
Bhringaraja भृङ्गराज	Bhumr, B Bhumr, H	Wedelia calendulacea, Less <i>Syn Verbena calandulacea, Willd</i>
Bhumichampa [भूमिचम्पक]	Bhumichamp, B	Kempferia rotunda, Linn
Bhumijambu भूमिजम्बु [munda]	Bhumjam, B	Premna herbacea, Roxb
Bhumikush- भूमिकुशा	Bhumikuma, B	Ipomoea digitata, Linn <i>Syn Batatas paniculata, Choisy</i>
Bhumyamalika भूम्यामलकी	Bhumamla, B Jaramla, H	Phyllanthus Niruri, Linn
Bhunimba भुनिम्ब	...	See Kiratatikta
Bhurjapatra भूर्जपत्र	Bhurjapatra, B Bhurjatar, H.	Betula Bhojpattra, Wall
Bhustrina भुस्त्रण	Gandhabenā, B	Andropogon Schoenanthus, Linn
Bhutakesi भूतकेशी [tika]	Bhutkesi, B II	Corydalis Govaniana, Wall
Brīhmanayas- ब्राह्मणयष्टिका	Bāmanhati, B Bharangi, H	Clerodendron Siphonanthus, R Br <i>Syn Siphonanthus Indica, Lamk</i>
Brahmi ब्रह्मी [ka]	Brihmi sak, B Barambhi, H	Herpestes Monnieria, H B K <i>Syn Gratiola Monnieria, Linn</i>
Chakramarda- चक्रमर्दक	Chikundiā, B [H Panwar, chakaund,	Cassia Tora, Linn <i>Syn Senna Tora, Roxb</i>
Champaka चम्पक	Champa, B H	Michelia Champaca, Linn

SANSKRIT	VERNACULAR	SCIENTIFIC NAMES
Chanaka चणक	Chholá, B Chana, H	Cicer arietinum, Linn Gram or chick-pea
Chandana चन्दन	Chandan, B Safed Chandan H	Santalum album, Linn. White sandal wood
Chandrikā चन्द्रिका	...	See Chandrasura
Chandrasura चन्द्रसूर	Hálim, H	Lepidium sativum, Linn
Changerī चाङ्गेरी	Ámrul sák, B H	Oxalis corniculata, Linn
Chavika चविका	Chai, B Chavi, H	Piper Chaba, Hunter <i>Syn Chavica officinarum, Miq</i>
Chhikkani छिक्कणी	Nákchhikni, B H	Centipeda orbiculata, Lour <i>Syn C Minuta, Benth</i>
Chichinda चिचिण्ड	Chichingá, B Chichenda, H	Trichosanthes anguina, Linn
China चीन	Chinā ghas, B Chena, Chin, H	Panicum miliaceum, Linn
Chitraka चित्रक	Chita, B H	Plumbago zeylanica, Linn
Chobachini चोवचिनि	Chobchini, H	Smilax China, Linn
Chorapushpi चोरपुष्पी	Chorkanta, B	Chrysopogon acicularis Retz <i>Syn Andropogon aciculatus, Roxb</i>
Chukra चुक	Chukapalang, B Chukek i sak, H	Rumex vesicarius, Linn Country sorrel
Dāḍima दाडिम	Dālim, B Ánar, H	Punica Granatum, Linn. Pomegranate tree
Dadrughna दद्रुघ्न	Dādmardan, B H	Cassia alata, Linn
Dahu डहू	Mādir, B Dahu, H	Artocarpus Lakucha, Roxb

SANSKRIT	VERNACULAR	SCIENTIFIC NAME
Damanaka दमनक	Doni, B Daoni, Marwa, H	<i>Artemisia vulgaris</i> , Linn <i>Syn. Artemisia u. lica</i> , Willd
Dandilu दण्डिलु	Khamulu B	<i>Dioscorea alata</i> , Linn
Dandotpala दण्डोत्पल	Dankuni, B.	<i>Canscora decussata</i> , Roem et Schult <i>Syn. Pladara decussata</i> , Roxb
Danti दन्ती	Danti, B II	<i>Baliospermum montanum</i> , Mull Arg <i>Syn. Croton polyacanthus</i> , Roxb
Darbha दर्भ	Ulu, B Dibh, H	<i>Imperata arundinacea</i> , Cyril <i>Syn. I. Cylindrica</i> , Beauv
Daruhardri दारुहरिद्रा	Daruhardri, B Daruhaldi, H	<i>Berberis asiatica</i> , Roxb Also <i>B. aristata</i> , DC.
Daru दार्वा	..	See Daruhardri
Devadaru देवदारु	Debdaru, B Deodar, H	<i>Cedrus Deodara</i> , Lond <i>Syn. Pinus Deodara</i> , Roxb
Devadhanya देवधान्य	Deodhan, B II	<i>Sorghum saccharatum</i> , Pers <i>Syn. Andropogon saccharatus</i> , Roxb
Devatada देवताड	Detara, H B	<i>Andropogon serratus</i> , Retz
Dhanvana धन्वन	Dhamani, B H	See Dharmana
Dhanya धान्य	Dhan, B II.	<i>Oryza sativa</i> , Linn Common rice plant
Dhanyaka धन्याक	Dhane, B Dhana, H	<i>Coriandrum sativum</i> , Linn Coriander plant
Dharakadamba धाराकदम्ब	Kelikadamba, B Haldu, H	<i>Adina cordifolia</i> , Benth and Hook <i>Syn. Nauclea cordifolia</i> , Roxb
Dharmana धर्मन	Dhamani, H. B	<i>Grewia asiatica</i> var <i>vestita</i> , Wall <i>Syn. G. Elastica</i> , Royle.
Dhataki धातकी	Dhapul, B Dhai, H	<i>Woodfordia floribunda</i> , Salisb <i>Syn. Grislea tomentosa</i> , Roxb

SANSKRIT	VERNACULAR	SCIENTIFIC NAMES
Dhava धव [driká Dholasamu- ढोलसमुद्रिका Dhustura धुस्तर [ka Dirghap. tñh- दीर्घपटोलिका Draksha द्राक्षा Dronapushpi द्रोणपुष्पी Dugdhika दुग्धिका Durálabha दुरालभा Durvá दूर्वा Elasukshma एलासूक्ष्मा Elabaluka ऐलबालुका Eraka एरका Eranda एरण्ड Erváru एर्वारु Gajapippali गजपिप्पली Gambhari गम्भारी	Dhaoyá, B H Dholsamudra, B Dhutorá, B Dhaturá, H Dhundul, B Ghiátorai, H Angur, B H Halkasá, B Guma, H Khirai, B Dudhialatí, B H. Duralabhá, B Jawásá, H Durbá, B Dub, H Gujratí eláchi, B Chhota eláchi, B Laluká, B Elu, H Hoglá, B Pater H Bherendí, B. Erand, H Phuti, B Phoot, H Gajapipal, B H Gámari, H Khambhari, H	Anogeissus latifolia, Wall. Syn <i>Conocarpus latifolia</i> , Roxb Leea macrophylla, Roxb Datura Metal, Linn Also <i>Datura fastuosa</i> , Linn. Luffa aegyptiaca, Mill Syn <i>L. Cylindrica</i> , Roem Vitis vinifera, Linn Dried fruits called Kismis. Leucas linifolia, Spreng Syn <i>Phlomis Zeylanica</i> , Roxb Oxystelma esculentum, R Br Syn <i>Asclepias rosea</i> , Roxb Alhagi Maruorum, Desv Syn <i>Hedysarum Alhagi</i> , Linn. Cynodon Dactylon, Pers Syn <i>Panicum Dactylon</i> , Linn Elektaria cardamomum, Mañon Also <i>Amomum subulatum</i> , Roxb A red powder sold under these names, the seed of some plant Typha angustifolia, Linn Syn <i>Typha elephantina</i> , Roxb Ricinus communis, Linn Castor oil plant [dica Cucumis Melo, Linn var Momor- Syn <i>Cucumis Momordica</i> , Roxb Scindapsus officinalis, Schott Syn <i>Pothos officinalis</i> , Roxb Gmelina arborea, Linn

SANSKRIT	VERNACULAR	SCIENTIFIC NAMES
Gandagūtra गन्धगात्र	Atā, B [II Sharifā, Sitāphal,	Anona squamosa, Linn Custard apple
Gadharaja गन्धराज	Gandharaj, B	Gardenia florida, Linn.
Gandhātrina गन्धदण्ड	...	See Bhustrina
Ganikarika गणिकारिका	Ganikāri, B Arni, II	Premna integrifolia, Linn Syn <i>P. spinosa</i> , Roxb
Gardhabhanda गर्दभाण्ड	Parespipal, B Gajahanda, II.	Thespesia populnea, Corr Syn <i>Hibiscus populneoides</i> , Roxb.
Garjara गर्जर	Gājar, H	Daucus Carota, Linn
Gavedhukā गवेधुका	Gargaredhān, B	Some species of Con.
Ghantapatalā घण्टापाटली	Ghantāpārul, B II	Schrebera swietenioides, Roxb
Ghantaravā घण्टारवा	Jhanjhanā, B	Crotalaria sericea, Retz [sp Forsk.
Ghritakumārī घृतकुमारी	Ghritakumārī, B. Ghikumar, II.	Aloe Vera, Linn Var officinalis Syn <i>A. Indica</i> , Royle
Godhapadī गोधापदी	Goalilatā, B	Vitis pedata, Vahl Syn <i>Cissus pedatus</i> , Lamk
Godhuma गोधूम	Gam, B Genhu II	Triticum vulgare, Linn Common wheat
Godumbā गोडुम्बा	Gomuk, B	Cucumis Melo, Linn [Roxb Syn <i>Cucumis madraspatanus</i> ,
Gojibā गोजिबा	Gojūlata, B. Gobhi, H	Elephantopus scaber, Linn
Gokshura गोक्षुर	Gokshura, B Gokhuru, H	Tribulus terrestris, Linn Syn <i>T. lanuginosus</i> , Linn
Granthiparna ग्रन्थिपर्ण	Gantiula, B Thivan, H	A sort of gall caused by an insect on some tree.

SANSKRIT	VERNACULAR	SCIENTIFIC NAMES
Grishmasun ग्रीष्मसुन्दर [dara]	Gimásak, B.	Mollugo cerviana Seringe Syn <i>Pharnaceum Mollugo</i> , Linn
Gudatvaka गुडत्वक्	...	See Tvacha.
Guduchi गुडूची	Gulanicha, B. Gurach, H	Tinospora cordifolia, Miers [<i>Willd.</i>] Syn <i>Memspermum cordifolium</i>
Guggulu गुग्गुलु	Guggul, B H	Balsamodendron Mukul, Hooker Also B, pubescens, Stocks
Gundra गुन्द्र	Gand pater, H.	Panicum uliginosum, Roxb.
Gunjá गुञ्जा	Kunch, B Chirmiti, Gunj, H	Abrus precatorius, Linn
Guváka गुवाक्	Supári, H Gua, B	Areca Catechu, Linn The betle nut tree
Hallaka हलक्	Raktakambal, B.	Nymphæa Lotus, Linn. Syn <i>N. rubra</i> , Roxb
Hapushí हपुषा	Habush, H	Black stalks like those of black pepper, aromatic
Hanichandana हरिचन्दन	Pitchandan, B.	Yellow variety of sandal wood.
Haridra हरिद्रा	Halud, B, Haldi, H	Curcuma longa, Roxb
Haritaki हरतकी [lisa]	Haritaki, B. Har, H.	Terminalia Chebula, Retz Chebulic myrobalan
Hastikarnapa हस्तिकर्णपलाश	...	Butea superoa, Roxb
Hastisundi हस्तिपण्डा [ka]	Hátisuri, B	Heliotropium indicum, Linn Syn <i>Helophytum Indicum</i> , Dc.
Hemapushpi ह्रस्वपुष्पीका	...	See Suvarnajuthikí
Hijjala हिज्जल	Hijjal, B H.	Barringtonia acutangula, Gaertn Syn <i>Eugenia acutangula</i> , Linn

SANSKRIT	VERNACULAR	SCIENTIFIC NAMES
Hihmochika हिलमोचिका	Hinchu, B Harhuch, H.	<i>Enhydra fluctuans</i> Lour <i>Syn Hingstla reflexa, Roxb</i>
Hingu हिंगु	Hing, H B	<i>Terula Assiactida, Linn</i> <i>I. Allicea, Boiss</i>
Hingupatri हिंगुपत्री	..	The subacid leaves of <i>Balanites</i> <i>Roxburghii</i> , Planchon, are so called
Hintala हिनताल	Hentál, H B	<i>Phoenix paludosa, Roxb.</i>
Hriversa ह्रीविर	Bali Sugandha bali, H	<i>Pavonia odorata, Willd</i>
Ikshu इक्षु	Uk, H. Ák, B.	<i>Saccharum officinarum, Linn.</i>
Indraváruni इन्द्रवारुणी	Indráyan, B Mufál, H	<i>Citrullus Colocynthis, Schrad</i> <i>Syn Cucumis Colocynthis, Linn.</i>
Indrayava इन्द्रवद	Indrajab, H B	Seeds of <i>Holarrhena antidysen-</i> <i>terica</i> , Wall
Ingudi इण्डी	Hingan, H Ingua H.	<i>Balanites Roxburghii, Planchon.</i> <i>Syn Ximenia Aegyptiaca, Roxb.</i>
Jalapippali जलपिप्पली	Pánikanchira, B Jalpipari, H	<i>Commelina salicifolia, Roxb.</i>
Jambira जम्बीर	Goránebu, B Jambir nebu, H	<i>Citrus medica, Linn</i> <i>Citrus acida, Var 3 of Roxb.</i>
Jambu जम्बु	Kála jam, B Jaman, H	<i>Eugenia Jambolana, Lamk, [A.</i> <i>Syn Syzygium Jambolanum, W &</i>
Jatimánsi जटामांसी	Jatamánsi, B H Baluchar, H.	<i>Nardostachys Jatamansi, D C</i> <i>Syn Valeriana Jatamansi, Jones.</i>
Játi जाती	Chameli, H Játi, B.	<i>Jasminum grandiflorum, Linn.</i>
Játiphala जातिफल	Jayphal, B H	<i>Myristica fragrans Houtt.</i> <i>M. Officinalis, Linn</i> The nutmeg tree
Javi जवा	Jabá, B Gudhal, H	<i>Hibiscus Rosa Sinensis, Linn</i> Shoe flower plant,

SANSKRIT	VERNACULAR	SCIENTIFIC NAMES
Jayanti जयन्ती	Jayanti, B H	<i>Sesbania aculeata</i> , Pers <i>Syn Aeschynomene sesban</i> , Roxb.
Jayapala जयपाल	Jayapāl, B Jamalgota, H	<i>Croton Tiglium</i> , Linn Croton oil plant
Jhavuka भावुक	Jhāu, B H	<i>Tamarix gallica</i> , Linn <i>Syn T Indica</i> , Willd
Jhingika किङ्गाक	Jhingā, B Torai, H	<i>Luffa acutangula</i> , Roxb <i>Syn Cucumis acutangulus</i> , Linn
Jhinti भिरुटी	Jhānti, B	<i>Barleria cristata</i> , Linn.
Jingini जिङ्गिनी	Jiol, B Jingan, H	<i>Odina Wodier</i> , Roxb
Jiraka जीरक	Jirā, B H.	<i>Cuminum Cyminum</i> , Linn. Cummin seeds
Jivanti जीवन्ती	Jibai, B. Jiba sag, H.	<i>Cælogyne ovalis</i> , Lindl
Jyotishmati ज्योतिषमती	Nayaphatki, B.	<i>Cardiospermum Halicacabum</i> , Linn
Kachchi कच्ची	Kachu, B H	<i>Colocasia antiquorum</i> , Schott. <i>Syn Arum Colocasia</i> , Roxb
Kadali कदली	Kalā, B Kela, H	<i>Musa sapientum</i> , Linn Var <i>Musa Paradisiaca</i> , Linn.
Kadamba कदम्ब	Kadam, B. H.	<i>Anthocephalus Cadamba</i> , Benth, and Hook <i>Syn Nauclea Cadamba</i> , Roxb.
Kairata कैरात	...	See Bhunimba.
Kakādam काकादनी	Kakakarī, B. Kantigurkamu, B	<i>Capparis sepiaria</i> , Linn.
Kakadumbar काकडुम्बर	Totmili, H Kakdumar, B H	<i>Ficus hispida</i> , Linn fil <i>Syn Ficus oppositifolia</i> , Roxb.
Kakjanghai काकजहा	Kakjanghai, H B	<i>Leea hirta</i> , Roxb

SAANSKRIT	VERNAKUPL	SCIENTIFIC NAMES
Kukali काकली	Kukoli, H B	A root said to be brought from Nepal or Morung
Kakamachi काकमाचा	Gurumat, B Mako, H	Solanum nigrum, Linn
Kakatinduka काकतिन्दुक	Makra kendu, B	Diospyros mel-noxylon, Roxb Also Diospyros tomentosa, Roxb
Kakatundi काकवृण्डी	Kowadodi, H	Asclepias curassavica, Linn
Kakkolaka कक्कोलक	Kikali, B H Sitalehuni, H	Berries containing a black aroma- tic waxy substance.
Kulakula कालकुट	A sort of Aconite
Kalambi कलम्बी	Kalmi sak, B	Ipomaea aquatica Forst Syn <i>I Reptans</i> , Pour
Kalanusariva कालानुसारिवा	Shruehchhop, B Tagarmul, H B	Limnanthemum cristatum, Griseb Syn <i>Athyantes cristata</i> , Rob
Kulasaka कालसाक	Narcha, B Ghinalita, B	Corchorus capsularis, Linn Jute plant
Kalaya कलाय	Matar, B H.	Pisum sativum, Linn. Common pea
Kamala कमल	Padma, B Kamal, H	Nelumbium speciosum, Willd The sacred Lotus
Kamalata कामलता	Parulati, B	Ipomaea Quamocht, Linn Syn <i>Quamocot vulgaris</i> , Choisy.
Kampilaka कम्पिलक [da	Kamalaguri, B Kamilá, Kambilá, H	Mallotus Philippensis Mull Arg. Syn <i>Rottlera tinctoria</i> Roxb
Kanana eran- काननऐरण्ड	Pábhári, erand, H Bugbherenda, B	Jatropha Curcas, Linn. The physic nut tree
Kanchana काञ्चन	Kachnar, H Kanchan, B	Bauhinia acuminata, Linn
Kínchanada काञ्चनाड	Rakta Kínchan, B Kachnar, H	Bauhinia variegata, Linn

SANSKRIT	VERNACULAR	SCIENTIFIC NAMES
Kanchata कचट	Kachradam, B Kanchara, B	Commelina bengalensis, Linn
Kangu कङ्ग	Kangu, kora, B. Kangni, H	Setaria italica, Beauv <i>Syn Panicum Italicum, Linn</i>
Kantakari कण्टकारि	Kanatakari, B Katui, Kateh, H	Solanum xanthocarpum, Schrad, & Wendl <i>Syn Solanum Jacquinni, Willd.</i>
Kapikachchu कपिकच्छु	Alkusi, B Kiwach, H	Mucuna pruriens, D C <i>Syn Carpopogon pruriens, Roxb.</i>
Kapittha कपित्थ	Kathbel, B Kaith, H	Feronia elephantum, Corr. The wood apple tree
Karamardaka कारमर्दक	Karamchā, B. Karaundā, H	Carissa Carandas, Linn. <i>Syn C congesta, Wight.</i>
Karanja करञ्ज	Dahar karanja, B Kiramal, H	Pongamia glabra, Vent <i>Syn Galedupa Indica, Lamk</i>
Karavella कारवेल्ल	Karalā, B Kareli, H	Momordica Charantia, Linn. <i>Syn M muricata, Willd</i>
Karavira करवीर	Karabi, B Kaner, H	Nerium odorum, Soland Sweet scented oleander
Karira करीर	Karil, H.	Capparis aphylla, Roth <i>Syn Capparis Sodada, R Br.</i>
Karkataka कर्कटक	Kikrol, B H	Momordica mixta Roxb <i>Syn M Cochinchinensis, Spreng</i>
Karkatasringi कर्कटगुड्डी	Kikri ringi, B Kakar singi, H	Rhus succedanea, Linn <i>Syn R. acuminata DC</i> [sima
Karkati कर्कटी	Kikur, B Kakri, H	Cucumis Melo, Linn Var Utilis- <i>Syn Cucumis utilissimus, Roxb</i>
Karmaranga कर्मारङ्ग	Kamrangi, B Kamarakh, H	Averrhoa Carambola, Linn Carambola tree
Karnikara कर्णिकार	Kanakchampī, B Kaniir, H	Pterospermum acerifolium, Willd.
Karpasi कार्पासी	Karpis, B Kapis, H	Gossypium herbaceum, Linn, Cotton plant.

SANSKRIT	TELVACIAR	SCIENTIFIC NAMES
Karpura कर्पूर [dr]	Karpur, B. Kapur, H.	Cinnamomum Camphora, Nees Camphor
Karpurahari कर्पूरहरिद्रा	Karpurhaldi, H Amuda, B	Curcuma Amada, Roxb Mango ginger
Karunā करुणा	Karunā nebu, B	Citrus medica (variety of).
Kusa काश	Kus, B H	Saccharum spontaneum, Linn
Kusamarda कासमर्द	Kālkusundā, B Kāsaundi, H	Cassia Sophora, Linn <i>Syn Senna Sophora, Roxb.</i>
Kaseruka कशेरुक	Kesur, B Kasuru, H	Scirpus Kysoor, Roxb
Kasmari फास्मरी	.	See Gambhuri
Kataka, कतक	Nirmah, B, H	Strychnos potatorum, Linn Clearing nut tree
Katphala कटफल	Kuyaphal, B Knephal, H	Mirica Nagi, Thunb <i>Syn M sapida, H all.</i>
Katrina कट्टण	Rumkarpura, B Rohish, H	A fragrant grass.
Katuka कटुका	Katki, B Kutki, H	Picrorrhiza Kurroa, Benth
Katutumbi कटुतुम्बी	Tiktalau B Tumbi, H.	Wild variety of Lagenaria vulgaris, Sering.
Kemuka केमुक	Keu, B. Keua, H.	Costus speciosus, Linn.
Kesarāja केशराज	Kesuria, B	Eclipta alba, Hassk <i>Syn E Prostrata and erecta, Linn</i>
Ketaki केतकी	Keya, B Keora, H	Pandanus odoratissimus, Roxb
Khadira खदिर	Khayer, B Kat, H	Acacia Catechu, Linn <i>Syn Mimosa Catechu, Linn</i>

SANSKRIT	VERNACULAR	SCIENTIFIC NAMES
Khaggara खगर	Khagra, B	A large variety of <i>Saccharum spontaneum</i> , Linn
Kharjura खजूर	Khejur, B Khajur, H	<i>Phoenix sylvestris</i> , Roxb Wild date palm
Kharvujā खवुंजा	Kharbujā, H	<i>Cucumis Melo</i> , Linn
Kinsuka किमुक	..	See Palasa
Kiratatikta किराततिक्त	..	A name for chireyta See Bnunimba.
Kodrava कीद्रव	Kodoā dhan, B Kodo, H.	<i>Paspalum scrobiculatum</i> , Linn.
Kokanada कीकण्ड	Rakta kamal, B	<i>Nelumbum speciosum</i> , Willd Red variety
Kokilaksha कीकिलाक्ष	Kantakulika, B Kulakkhara, B Talmakhana, H	<i>Hygrophila spinosa</i> , T Ander Syn <i>Ruellia longifolia</i> Roxb
Kola कील	Kul, B Bzer, H	<i>Zizyphus Jujuba</i> , Lamk
Kosamra कीशव	Kosham,	<i>Mangifera sylvatica</i> , Roxb
Koshātaki कीणतकी	Ghoshalata, B Karwitarui, H	<i>Luffa acutangula</i> Roxb Syn <i>Luffa amara</i> , Roxb.
Kovidara कीविदार	...	See Kanchanada.
Krishnachuda हरचूडा	Krishna churā, B	<i>Cæsalpinia pancherrima</i> , Sw Syn <i>Pourciana pulcherrima</i> , Linn.
Krisnajuraka हरजीरक	Kālājūrā, B H Magrel., H	<i>Nigella sativa</i> , Linn
Krisnakeli हरकेली [pat]	Krishnakeli, B	<i>Mirabilis Jalapa</i> , Linn
Kshetrapar- क्षेपपंटी	Khetpāpra, B Daman papar, H	<i>Oldenlandia herbacea</i> , DC Syn <i>Oldenlandia Corymbosa</i> Linn

SANSKRIT	VEPACUAT.	SCIENTIFIC NAMES
Kshirakakoli क्षीरकाकोली		A bulb of the onion tribe brought from the Himalaya.
Kubjaka कुब्जक	Kuja, B Kujai, H.	Rosa moschata, Mill (variety of) <i>Syn Rosa pubescens, Roxb</i>
Kuchila कुचिला		See Vishamushti
Kukubha ककुभ		See Arjuna
Kukuradru कुक्रुद्र	Kukursungā, B Kukkurbandā, H	Blumea lacera, DC <i>Syn Coryza lacera, Burm</i>
Kulāhala कुलाहल	Koksima, B	Celsia coromandeliana, Vahl
Kulanjana कुलञ्जन	Mahābarivach, B Kulinján, H	Alpinia Galanga, Willd <i>Syn Galanga major, Rumph</i>
Kulattha कुलत्थ	Kulthi, B H	Dolichos uniflorus, Lamk Dolichos biflorus, Linn.
Kulika कुलिक	..	See Kokilāksha
Kumbhikā कुम्भिका	Tākap'inā, B H Jalkumbhi, H	Pistia Stratiotes, Linn
Kumkuma कुङ्कुम	Jāfrān, B H	Crocus sativus, Linn. Saffron.
Kumuda कुमुद	Sāluk, B. Koi, H	Nymphaea Lotus, Linn.
Kunda कुन्द	Kundphul, B H	Jasminum pubescens, Willd
Kunduru कुन्दुरु	Kundarkhatī, H.	Boswellia serrata Roxb ex Colebr. <i>Syn B Thurifera, Colebr</i>
Kupilu कुपीलु	Kuchilā, B H.	Strychnos Nux-vomica, Linn.
Kuruntaka कुरुण्टक	Kuntajāti, B. Katsareya, H	Barleria prionitis, Linn.

SANSKRIT	VERNACULAR	SCIENTIFIC NAMES
Kuruva कुरुवक	Raktajhinti, H	Barleria cristata, Linn Red variety
Kusa कुस	Kus, B H	Poa cynosuroides, Linn <i>Syn Eragrostis cynosuroides, Retz.</i>
Kushmānda कुष्माण्ड	Kumrá, B Pethá, H	Benincasa cerifera, Savt <i>Syn Cucurbita Pepo, Roxb</i>
Kusumbha कुसुम्भ	Kusamphul, B. Kusum, H	Carthamus tinctorius, Linn Safflower
Kushtha कुष्ठ	Kur, B Páchak, Kut, H.	Saussurea Lappa C B Clarke <i>Syn Aplataxis auriculata, DC</i>
Kutaja कुटज	Kurchi, B H Kureya, H	Holarrhena antidysenterica, Wall. <i>Syn Echites antidysenterica, Roxb</i>
Lajjalu लज्जालु	Lajak, B Lajjavati, H	Mimosa pudica, Linn The sensitive plant
Lakucha लकुच	Madar, H Barhal, Dahu, H	Artocarpus Lakoocha, Roxb
Lamajjaka लामज्जक	Lamjak, H	Andropogon Iwarancusa, Linn <i>Syn Andropogon laniger Desf</i>
Langalika लाङ्गलिका	Bishalanguli, B Karihari, H.	Gloriosa superba, Linn
Latakasturika लताकस्तूरिका	Latakasturi, B Mushkdana, H.	Hibiscus Abelmoschus, Linn <i>Syn Abelmoschus moschatus, Manch.</i>
Lavali लवली	Lona, B.	Anona reticulata, Linn
Lavanga लवङ्ग	Lang, H Langa, B	Caryophyllus aromaticus, Linn Cloves
Lavangalata लवङ्गलता	Langphul, B	Luvunga scandens, Ham <i>Syn Limonia scandens, Roxb</i>
Lavani लवणी	Noari, B Harfarauni, H.	Phyllanthus distichus, Mull Arg <i>Syn P longifolius, Roxb</i>
Limpaka लिम्पक	Patinebu, B	Variety of Citrus acida, Roxb.

SANSKRIT	VERACULAR	SCIENTIFIC NAMES
Lodhra लीध्र	Lodh, B H	<i>Symplocos racemosa</i> , Roxb
Loni लीणि	Chhotaluni, B H Baraluni, B H	<i>Portulaca oleracea</i> , Linn <i>Also P quadrifida</i> , L
Madana मदन	Madan, B Mayan, H	<i>Randia dumetorum</i> , Lamk <i>Syn Posoqueria dumetorum</i> , Roxb
Madhavi माधवी	Madhavilatu, B H	<i>Hiptage Madhavalata</i> , Gaertn <i>Syn Gaertnera racemosa</i> , Roxb
Madhuka मधूक	Maua, B H	<i>Bassia latifolia</i> , Roxb
Madhurika मधुरिका	Mauri, B Sonf, H	<i>Foeniculum vulgare</i> , Gaertn Fennel seeds
Madhulu मधूल	Maualu, B	<i>Dioscorea aculeata</i> , Roxb
Mahabala महाबला	Svet bereli, B Sahadebi, H	<i>Sida rhomboidea</i> , Roxb
Mahikala महाकाल	Mikal, B Indrayan, H	<i>Trichosanthes palmata</i> , Roxb
Mahanimba महानिम्ब	Ghoranim, B Bakain, H	<i>Melia Azedarach</i> , Linn <i>Syn Melia sempervirens</i> , Sw
Makhana मखान	Makhana, B H	<i>Euryale ferox</i> , Salisb <i>Syn Anneslia spinosa</i> , Roxb
Mukushtaka मुकुष्टक	Mat, H Banmudga, B.	<i>Phaseolus aconitifolius</i> , Jacq
Mulati मालती	Mulati, H. B	<i>Aganosma caryophyllata</i> , G Don <i>Syn Echites caryophyllata</i> , Roxb
Mallika मल्लिका	Mallika, B Bel, H B	<i>Jasminum Sambac</i> , Ait.
Manaka मानक	Man kachu, B Man kand, H	<i>Alocasia indica</i> , Schott <i>Syn Arum Indicum</i> , Roxb
Mandira मन्दार	..	See Parijata

SAṂSKRIT	VERNACULAR	SCIENTIFIC NAMES
Mandukaparnī मण्डुकपर्णी	Thulkuri, B Brahmamanduki, B	Hydrocotyle asiatica, Linn
Manjushṭa मञ्जिष्ठा	Manjishti, B Manjit, H	Rubia cordifolia, Linn <i>Syn R Munjista, Roxb</i>
Maricha मरिच	Golmarich, B Kalimarich, H.	Piper nigrum, Linn Black pepper
Marisha मारिष	Natiya sag, B Marsa, H	Amarantus oleraceus, Linn.
Masha माष	Mishkalai, B Urud, H	Phaseolus Mungo Linn Var radiatus Linn <i>Syn Phaseolus Roxburghii, W A.</i>
Mashaparnī माषपर्णी	Māshani, B Mashoni, H	Teramnus labialis, Spreng <i>Syn Glycine debilis, Roxb</i>
Masura मसूर	Masur, B H	Lens esculenta Moench <i>Syn Cicer lens, Roxb</i>
Matulunga मातुलुङ्ग	Chholanga nebu, B	Citrus medica, Linn var acida
Mayurasikhi मयूरसिंखा	Lal murgá, B Kokan, H	Celosia cristata, Linn
Mendiká मेन्दिका	Mendi, B Hena, H	Lawsonia alba, Lamk <i>Syn L inermis, Linn</i>
Meshasringī मेषशङ्खी	Merasingi, B. H	Gymnema sylvestre, R Br <i>Syn Asclepias geminata, Roxb</i>
Methika मेथिका	Methi, B H	Trigonella foenum græcum, Linn
Misreyi मिश्रिया	Sulpha, B Sowá, H	Peucedanum graveolens Benth <i>Syn Peucedanum Sowa,</i> <i>Bth & Hf</i> Dill seeds
Muchukunda मुचुकुन्द	Muchkand, B H	Pterospermum suberifolium, Lamk.
Mudga मुद्ग	Moong, B H	Phaseolus Mungo, Linn
Mudgaparnī मुद्गपर्णी	Mugani, B. II	Phaseolus trilobus, Ait

SANSKRIT	VERNACLULAR	SCIENTIFIC NAMES
Mulaka मुलक	Mula, B Muli, H.	Raphanus sativus, Linn Garden radish.
Munditika मुण्डितिका	Murmura B Gorak mundi H	Sphocranthus indicus, Linn <i>Syn S mollis, Roxb</i>
Munjā मुञ्ज	Munj, B H	Saccharum Munja, Roxb.
Murva मूर्धा	Gorāchakra, B Murā, B.	Sansevieria zeylanica, Willd <i>Syn S Roxburghiana, Schult.</i>
Mushikaparnī मुषिकपर्णी	Indurkāmī, B	Salvinia cucullata, Roxb
Mushkaka मुष्कक	Ghai tā pīrul, B Banpalās, H	Schrebera swietenoides, Roxb
Mustaka मुस्तक	Mutha, B Mothā, H	Cyperus rotundus, Linn.
Nagabalā नागबला	Gorakchāulā, B Gulsakari, H	Sida spinosa, Linn <i>Syn S alba, Linn</i>
Nāgadamanī नागदमनी	Nāgdonā, B Nagdom, H	Artemisia vulgaris, Linn <i>Syn A Indica, Willd.</i>
Nāgakesara नागकेशर	Nagkesar, B H	Mesua ferrea, Linn
Naganā नागना [taka]	...	See Jautishmati
Nāgara mus- नागरमुस्तक	Nāgarmuthā B. H	Cyperus pertenuis, Roxb <i>Syn Cyperus scariosus R Br</i>
Nagaranga नागरङ्ग	Kamlā nebu, B Nārangi, H	Citrus Aurantium, Linn. The sweet orange
Nāgavallī नागवल्ली	Pan, B H	Piper Betle, Linn <i>Syn Chavica Belle, Miq</i>
Nāktamala नक्तमाल	...	See Karanja
Nakulī नाकुली	Nāi, B. H.	This is said to be a variety of Rāsnā (Vanda Roxburghii) which is substituted for it in prescriptions.

SANSKRIT	VERNACULAR	SCIENTIFIC NAMES
Nala नल	Nal, B	Phragmites Karka, Trin
Nali नाली	Narkul, H	<i>Syn Arundo Karka, Retz</i>
Nalika नलिका	Mestápát, B	Hibiscus cannabinus, Linn.
Nandi vriksha नन्दीवृक्ष	Náhtá, H.	A red bark used in scenting medicinal oils
Nádika नाडीक	Nalipafari, H	Cedrela Toona, Roxb
Narikela नारिकेल	Tun, B H.	Is a large tree.
Navamálíká नवमालिका	Pát, B H	Corchorus olitorius, Linn.
Nidigdhiká निदिग्धिका	Nárikel, B	Jute plant
Nilá नील	Narial, H	Cocos nucifera, Linn
Nilakamala नीलकमल	Nabamalliká, B	Cocoa nut palm
Nilotpala नीलोत्पल	Motiá, H	Jasminum Sambac, Linn
Nimba निम्ब		Double flowered Jasmine
Nimbu ka निम्बुक	Nil, B H	See Kantakari.
Nirgundi निर्गुण्डी		Indigofera tinctoria, Linn.
Nirvisha निर्विषा		Indigo plant.
Nisa निशा		Blue Lotus ?
	...	Nymphœa stellata, Willd.
	Nilsaplá, B	Melia Azadirachta, Linn.
	Nilofar, H	<i>Syn Azadirachta Indica, Juss</i>
	Nim, B H	Citrus medica, Linn var, acida
	Kágjinembu, H B	Vitex Negundo, Linn
	Nisindá, B	Kyllingia monocephala, Linn.
	Sambhalu, H	Curcuma longa, Linn
	Nirbishi, B H	Turmeric plant
	Halud, B	
	Haldi, H	

SANSKRIT	VERACIAP	SCIENTIFIC NAMES
Nishpīva निष्पिवा	Barbatī, B Lobīa, H	Vigna catirng, Endl <i>Syn Dolichos surensis, Linn</i>
Nivira निवार	Uridhan, B	Wild variety of <i>Oryza sativa</i> , Linn.
Nyagrodha न्यग्रोध	See Vata
Olla ओल	Ol, B H Jimikand, H	[Blume <i>Amorphophallus campanulatus</i> , <i>Syn Arum campanulatum, Roxb</i>
Padma पद्म	Padma, B H	<i>Nelumbium speciosum</i> , Linn
Padmachārini पद्मचारिणी	.	See Sthala padma
Padmakashṭī पद्मकाष्ठ	Padmakashṭī, B H	A fragrant wood resembling toon brought from Malwa or Southern India
Palendu पलारु	Pinj, B H	<i>Allium Cepa</i> , Linn Common onion
Pālankī पालङ्की	Pālang sag, B Pālankī, H	<i>Beta maritima</i> , Linn <i>Syn B Bengahensis, Roxb</i>
Palāsa पलाश	Palas, B Dhak, H	<i>Butea frondosa</i> , Roxb
Panasa पनस [ni	Kaṭṭil, B Kathar, H [H	<i>Artocarpus integrifolia</i> , Linn. Indian jack tree
Parasikayama पारसीकयमानी	Kāḥuraśini jamani, .	Seeds of <i>Hyoscyamus niger</i> , Linn
Parijāta पारिजात	Ālita mandār, B Pharhad, Pangra, H	<i>Erythrina indica</i> , Linn Coral tree
Pārīsa पारिष	Palās pipal, B Pares pipal, H	<i>Thespesia populnea</i> , Corr <i>Syn Hibiscus populneoides, Roxb</i>
Parkatī पर्कटी	Pakur, B Pakhar, H.	<i>Ficus infectoria</i> , Roxb
Parpata पर्पट	...	See Kshetraparpatī.

SANSKRIT	VERNACULAR	SCIENTIFIC NAMES
Parusha परुष [dana]	Phalsa, B	Grewia asiatica, Linn
Páshan abhe- पाषाणभेदन	Pharsá, H	Selaginella imbricata, Spring
Pashanabhedi पाषाणभेदी	Hathájori, B H.	Syn <i>Lycopodium imbricatum</i> , Roxb
Patalā पाटला	Pathor chur, B H.	Coleus aromaticus, Benth
Patha पाठा	Pirul, B	Syn <i>C Amboinicus</i> , Lour
Pathya पथ्या	Pár, H	Stereospermum suaveolens, DC
Pátola पटोल	Ákanadi, B	Syn <i>Bignonia suaveolens</i> , Roxb
Pattanga पत्तङ्ग	Nemuká, B	Stephania hernandifolia, Walp
Phenila पेणिल	.	Syn. <i>Cissampelos hernandifolia</i> , Linn
Pilu पिलु [ra]	.	See Haritaki
Pindakharju- पिण्डखर्जूर	Patol, B	Trichosanthes dioica, Roxb
Pindalu पिण्डालु	Palwal, H	Cæsalpinia Sappan, Linn
Pindara पिण्डार	Bakam, B	Sapindus trifoliatus, Linn
Pippali पिप्पली	Pattang, B	Syn <i>S Emarginatus</i> , Vahl
Piyala पियाल	Rithí, H. B.	Salvadora persica, Linn
Plaksha प्लक्ष	Pilul, B. H.	Syn <i>Salvadora Indica</i> , Wight.
	Pindakhejur, H B	Phoenix dactylifera, Linn
	Chuprialu, B	The date palm
	Pindara, H	Dioscorea globosa, Roxb
	Pitali, B	Trewia nudiflora, Linn
	Pipul, B	Piper longum, Linn
	Pipal, H	Syn <i>Chavica Roxburghii</i> , Miq
	Piyal, B	Buchanania latifolia, Roxb
	...	The nuts are called Cheraunji
		See Parkati

SANSKRIT	VERNACULAR	SCIENTIFIC NAMES
Prachinamala- प्राचीनामलक [ka]	Pamalá, B Pamímlak, H	Thicourtia Cataphracta, Roxb.
Prapaundarika प्रपाण्डरीक	Panderin, H	Root-stock of Nymphaea Lotus, Willd
Prasarani प्रसारणी	Gandhabhadulm, B Khip, Gandhali, H	Pæderia foetida, Linn.
Prikka प्रिका	Piring sak, B Chini, H	See Sprikka
Prisniparni प्रस्नीपर्णी	Pitvan, H Chakulia, B	Uraria lagopoides, DC <i>Syn Doodia lagopodioides, Roxb</i>
Priyangu प्रियङ्गु	Priangu, B H	Aglais Roxburghiana, Miq
Puga पूग	See Guvaka
Punarnava पुनर्नवा	Punarnaba, B Sant, H	Boerhaavia diffusa, Linn <i>Syn B procumbens and erecta</i>
Pundarika पुण्डरीक	Svetpadma, B H	Nelumbium speciosum, Willd white variety
Punnaga पुन्नाग [la]	Punnag, B Poláng, Oorya	Calophyllum inophyllum, Linn
Pushkaramu- पुष्करमूल	Pohokarmuly, H	This root is not available, the root, of Aplotaxis auriculata is substituted for it
Putiká पुत्तिका	Puisák, B. Poi, H	Basella rubra, Linn
Putikaraja पुत्तिकरज	Niti, B Katkaraunj, H.	Caesalpinia Bonducella, Fleming
Putranjiva पुत्रजीव	Japuta, H B.	Putranjiva Roxburghi, Wall. <i>Syn Nageia Putranjiva, Roxb</i>
Ragi रागी	Maruá, B Mandua, Ragi, H	Eleusine Coracana, Gaertn
Rajadani राजादनी	Khirkhejur, B Kshiri, H	Mimusops hexandra, Roxb <i>Syn Mimusoys Indica, DC.</i>

SANSKRIT	VERNACULAR	SCIENTIFIC NAMES
Rajakoshataka राजकीपातकी	Dhundul, B Ghiátarui, H.	Luffa aegyptiaca, Mill <i>Syn Luffa pentandra, Roxb</i>
Raja masha राजमाष	Barbatí, B Lobiá, H	Vigna Catiang, Endl <i>Syn Dolichos sinensis, Linn.</i>
Rajanigandha रजनीगन्धा	Rajanigandha, B Gulshabba, H	Polyanthes tuberosa, Linn Tube rose
Rajasarsapa राजसर्षप [na Raktachanda रक्तचन्दन	Raisarisí, B Rai, H Raktachandan, B Lalchandan, H.	Brassica juncea, Hf and T <i>Syn Sinapis ramosa, Roxb</i> Pterocarpus santalinus, Linn. Red sandal wood
Raktachitraka रक्तचित्रक	Lalchitá, B H	Plumbago rosea, Linn
Raktalu रक्तालु	Rangálu, B Ratálu, H	Ipomoea Batatus, Lamk
Raktotpala रक्तीत्पल	Raktakambala, B	Nymphoea Lotus, Linn <i>Syn N rubra, Roxb</i>
Randa रन्डा		See Mushikaparni
Rásná रास्ना	Rasna, B H	Vanda Roxburghii, R Br <i>Syn Cymbidium tessaloides, Roxb</i>
Rasonaka रसीनक	Rasun, B Lahasun, H	Allium sativum, Linn Garlic
Renuká रेणुका	Renuka, B	Piperaurantiacum, Wall ,probably
Rohitaka रोहितक	Tiktaraj, B Harinhara, H	Amoora Rohituka, W and A <i>Syn Andersonia Rohituka, Roxb</i>
Rudraksha रुद्राक्ष [ya	Rudraksha, B Rudrakh, H	Elæocarpus Ganitrus, Roxb
Sailaja, Saile शैलज शैलेय	Chhanilá, H	A species of Lichen
Saivala शैवाल	Seyala, B Sival, H	Vallisneria spiralis, Linn <i>Syn Blyxa octandra, Rich.</i>

SANSKRIT	VERNACULAR	SCIENTIFIC NAMES
Suka शाक	Segun, B. H.	Tectona grandis, Linn fil Teak tree
Sakhotaka शाखोटक	Sy'orá, B. H. Siota, H.	Streblus asper, Lour <i>Syn Trophus aspera, retz.</i>
Sala शाल	Sil, B. H. Sikhu, H.	Shorea robusta, Gaertn
Salaparni शालपर्णी	Salpáni, B. Sarivan, H.	Desmodium gangeticum, Dc. <i>Syn Hedysarum gangeticum, Linn</i>
Salincha शालिच	Sánchi, B.	Alternanthera sessilis, R. Br <i>Syn Acheranthes triandra, Roxb</i>
Sallaki शलकी	Salai, B. H.	Boswellia serrata, Roxb ex Colebr.
Sálmali शाल्मली	Simul, B. Semal, H.	Bombax Malabaricum, DC <i>Syn B. heptaphylla, Cav</i>
Síluka शालुक	Suluk, B.	Roots of different species of Nymphaea
Samí शमी	Sain, B. Chhikura, H.	Acacia Suma, Ham <i>Syn Mimosa Suma, Roxb</i>
Sana शन	San, B. H.	Crotalaria juncea, Linn Indian hemp
Sanapushpi शनपुष्पी	Bansanui, B. Sanhuly, B.	Crotalaria verrucosa, Linn
Sankhálu शङ्खालु	Sánkálu, B.	Pachyrhizus angulatus, Rich. <i>Syn Dolichos bulbosus, Linn</i>
Sankhapushpi शङ्खपुष्पी	Dánkuni, B. Sankhahuli, H.	Canscora decussata, R et Sch <i>Syn Pladera decussata, Roxb</i>
Saptachhada सप्तच्छद	Chhatin, B. Chhatian, H.	Alstonia scholaris, R. Br <i>Syn Echites scholaris, Roub.</i>
Sara शर	Sar, B. Rámsar, H.	Saccharum Sara, Roxb Pen reed grass
Sarala शरल	Chir, Saral, H.	Pinus longifolia, Roxb



SANSKRIT	VERNACULAR	SCIENTIFIC NAMES
Sarapunkha शरपुङ्खा	Sarphonka, B H	Tephrosia purpurea, Pers <i>Syn Galega purpurea, Linn</i>
Sariva शरिवा	Syamlata, B	Ichnocarpus frutescens, R Br. <i>Syn Echites frutescens Roxb</i>
Sarpagandha सर्पगन्धा	Chandrá, B	Rauwolfia serpentina, Benth
Sarpikshi सर्पाक्षि	Gandhanakuli, B	Ophiorrhiza Mungos, Linn.
Sarshapa सर्षप	Sarahati, H	
Sarvajaya सर्वजया	Sarisa, B	A common name for mustard seeds
	Sarson, H.	
Satamuli शतमूली	Sarbajaya, B	Canna indica, Linn Indian shot
Satapatni शतपत्री	Satabari, B	Asparagus racemosus, Willd.
	Satavar, H	
Satapushpi शतपुष्पी	Seuti, H B	Rosa moschata, Mill <i>Syn R glandulifera, Roxb</i>
	• •	See Misreya
atīS शटी	Karchur, H	
	Sati, B	Curcuma Zerumbet, Roxb.
Satila सतीला	Matar, B H.	Pisum sativum, Linn
Saureya शौर्य	Suklahinti, B.	See Jhinti
Selu शेलु	Bahubára, B	
	Lasora, H	Cordia Myxa, Linn
Sephalika शेफालिका	Seuli, B	Nyctanthes Arbor-tristis, Linn.
	Harsingar, H.	
Seva सेव	Seb, B	Pyrus Malus, Linn
	Sev, H	The apple tree
Sevati सेवती		See Satapatni.

SANSKRIT	VERNACULAR	SCIENTIFIC NAMES
Sigru शिशु	...	See Sobhanjana
Silhaka निरहका	Silhi, Siláras, B Nagongond, H	Liquidamber orientalis, Miller Liquid stonax
Simbi शिम्वी	Sim, B	A name for several species of Dolichos
Sindhuvára सिन्धुवार	Nishindá, B Sambhál, H.	Vitex Negundo, Linn
Sinsapa शिशपा	Sisu, B H	Dalbergia Sissoo, Roxb
Sirisa शिरोप	Siris, B H	Albizzia Lebbeck, Benth <i>Syn Mimosa sirissa, Roxb</i>
Sitalapatrika शीतलपत्रिका	Muktapáti, B Sitalpáti gách, B	Maranta dichotoma, Wall <i>Syn Phrynium dichotomum, Roxb.</i>
Sitali शीतली	...	See Kalanusárin
Snuhi नुही	Mansá sij, B Thohar, H	Euphorbia nernifolia, Linn <i>Syn E ligularia, Roxb</i>
Sobhanjana शीभाजन	Sajiná, B H Sahunjan, H	Moringa pterygosperma, Gaertn <i>Syn Hyperanthera moringa, Willd.</i>
Somalatá सीमलता	Somlata, B H	Sarcostemma brevistigma, W A <i>Syn Asclepias acida, Roxb</i>
Somaráji सीसरानि	Somraj, B Bukuchi, H	Vernonia anthelmintica, Willd <i>Syn Serratula anthelmintica, Roxb</i>
Sprikka स्पृक्का	Piring sák, B Lankáyika, H	Trigonella corniculata, Linn
Sribasa श्रीवास [ka]	Gandhabirajá, H B	Resin of Pinus longifolia, Roxb
Srigalakanta- श्रीगालकण्टक	Siul kánta, B	Argemone mexicana, Linn.
Srigalakoli श्रीगालकोलि	Siakul, B	Zizyphus Ænophia, Mill

SANSKRIT	VERNACULAR	SCIENTIFIC NAMES
Sringataka शृङ्गाटक	Paniphal, B Singhara, H	Trapa bispinosa, Roxb
Sringi शृङ्गी	...	See Karkatasringi
Sripkala श्रीफल		See Vilva
Sthalapadma स्थलपद्म	Sthalpadma, B Sthalkamal, H	Hibiscus mutabilis, Linn
Sthauneya स्थोनेय	...	See Granthiparni
Sthulaila स्थूलैला	Bara elachi, B H	Amomum subulatum, Roxb
Sudarsana सुदर्शन	Padma gulancha, B	Tinospora tomentosa, Miers [Roxb. Syn <i>Memspermum tomentosum</i> ,
Sunanda सुनन्दा	Ishermul, B	Aristolochia indica, Linn
Sunisannaka सुनिसन्नक	Sunsunia, B Chaupatte, H	Marsilea quadrifolia, Linn.
Surana शूरण	Ol, B H Jimikand, H	[Blume. Amorphophallus campanulatus, Syn <i>Arum campanulatum</i> , Roxb
Surjamani सूर्यमणि	Surjamani, B.	Hibiscus phoeniceus, Willd.
Surjavarta सूर्यावर्त	Hurhuria, B Hul hul, H	Gynandropsis pentaphylla, DC Syn <i>Cleome pentaphylla</i> , Linn
Sushavi सुषवी	Shia jira, H	Carum Carui, Linn
Sushavi सुषवी	Uchchhe, B Karela, H	Momordica Charantia, Linn Syn <i>Momordica muricata</i> , Willd
Svarnajuthika स्वर्णयुधिष्ठा	Svarnajui, B	Jasminum humile, Linn Syn <i>J chrysanthemum</i> , Roxb
Svarnakshiri स्वर्णक्षीरी	Chos, Chok, H	Cleome felina, Linn f Syn <i>Polanisia felina</i> , DC.

SANSKRIT	VERNACULAR	SCIENTIFIC NAMES
Syamaka श्यामाक	Syama dhan, B. Samak, H	<i>Panicum frumentaceum</i> , Roxb
Syamalatā श्यामलता	Syamalatā, B	<i>Ichnocarpus frutescens</i> , R. Br <i>Syn Echites frutescens</i> , Roxb.
Syonaka श्योनाक	Sona, B Arlu, H	<i>Oroxylum indicum</i> , Vent <i>Syn Bignonia Indica</i> , Linn.
Tagara तगर	Tagar, B Chandni, H.	<i>Tabernaemontana coronaria</i> Br.
Tala ताल	Tāl, H B	<i>Borassus flabelliformis</i> , Linn
Talamuli तालमुली	Mushali, H Tāl muli, B	<i>Curculigo orchinoides</i> , Gaertn.
Talispatra तालीशपत्र	Talispatra, B	<i>Pinus Webbiana</i> , Lindl <i>Syn Abies Webbiana</i> , Lindl
Tamala तमाल	Tamāl, B H	<i>Garcinia Xanthochymus</i> , Hook f Also a name for <i>Cinnamomum</i> Tamala, Nees
Tambula तामूल	Pan, B H Tambula, H	<i>Piper Betle</i> , Linn <i>Syn Chavica Betle</i> , Mig
Tamrakuta ताम्रकुट	Tamāk, B Tambiku, H	<i>Nicotiana Tabacum</i> Linn Tobacco plant
Tanduliya* तण्डुलीय	Chāmpā natā, B Cholui, H	<i>Amarantus polygamus</i> , Linn.
Tankāri टङ्करी	Tekari, B Tepuria, B.	<i>Physalis peruviana</i> , Linn <i>Syn P edulis</i> , Sims
Tarambuja तराम्बुज	Tarmuj, B. Tarbuz, H	<i>Citrullus vulgaris</i> , Schrad <i>Syn Cucurbita Citrullus</i> , Roxb
Taruni तरुणी	Seuti, B Svet Golāb, B	<i>Rosa alba</i> , Linn The Indian white rose
Tejapatra तेजपत्र	Tejpāt, H B	<i>Cinnamomum Tamala</i> , Nees <i>Syn Laurus Cassia</i> , Roxb

* Some Bengali physicians use the *Amaranthus spinosus*, Linn under the name of Tandulia

SANSKRIT	VERNACULAR	SCIENTIFIC NAMES
Tila तिल	Til, B H	Sesamum indicum, DC <i>Syn S orientale, Linn</i>
Tindisa टिण्डिश	Dheras, B Ramtarui, H.	Hibiscus esculentus, Linn <i>Syn H longifolius, Roxb</i>
Tinduka तिन्दुक्त	Gab, B H	Diospyros Embryopteris, Pers <i>Syn D glutinosa, Kamig</i>
Tinisa तिनिश	Sandan, H Tinis, B	Ougenia dalbergioides, Benth <i>Syn Dalbergia cojatenensis, Roxb</i>
Tinitiri तिनिडी	Tentul, B Imli, Amlī, H.	Tamarindus indica, Linn Tamarind tree
Trapusa त्रपुषा	Khiri, H Sasi, B	Cucumis sativus, Linn
Trayamānā त्रायमाण	Balabahula, B Baladumur B	Ficus heterophylla, Linn fil.
Triputi त्रिपटी	Khesari, H B	Lathyrus sativus, Linn
Trivrit त्रिवत्	Teori, B Nisoth, Turbud, H	Ipomœa Turpethum, R Br <i>Syn Convolvulus Turpethum, Linn.</i>
Tuda, Tula तूट, तूल	Tut, B H Tutri, H	Morus indica, Linn <i>Syn M parvifolia, Royle</i>
Tulasi तुलसी	Tulsi, B H	Ocimum sanctum, Linn
Tumburu तुम्बुरु	Tumru, H Nepalidhania, B	Zanthoxylum alatum, Roxb <i>Syn Z hostile, Wall</i>
Tunna तुन्न	Tun, B H	Cedrela Toona, Roxb
Tvacha त्वचा	Dalchini, B H Tvach, H	Cinnamomum zeylanicum, Breyn
Udumbara उदुम्बर	Jagna dumar, B Gular, H	Ficus glomerata, Roxb <i>Syn Covellia glomerata, Miq</i>
Ushira उशीर	Benamul, B Khas khas, H	Andropogon muricatus, Retz The root is so called

SANSKRIT	VERNACULAR	SCIENTIFIC NAMES
Varsikā वार्षिकी	Bel, H B	Fraxinum Sambac, Ait [see Also a name for Triyamāna, which
Vartāku वार्ताकु	Begun, B Bhanta, H	Solanum Melongena, Linn.
Varuna वरुण	Barun, B Barna, H	Crataeva religiosa, Forst <i>Syn Capparis trifoliata, Roxb.</i>
Varvara वर्वर	Babuntulsi, B Babul, H	Ocimum Basilicum, Linn <i>Syn O pilosum, Willd</i>
Vavvula ववुल	Babla, B Babul, H	Acacia arabica, Willd
Vasaka वासक	Bikas, B. Arusha, H	Adhatoda Vasica, Nees <i>Syn Justicia Adhatoda, Roxb.</i>
Vasphika वाष्पिका	Randhuni, B	Carum Roxburghianum, Benth.
Vastuka वास्तुक	Bethuā sak, B H	Chenopodium album, Linn.
Vata वट	Bar, H B	Ficus bengalensis, Linn. <i>Syn F Indica, Roxb</i>
Vetasa, Vetra वेतस, वेत	Bet, B. H.	Calamus Rotang, Linn <i>Syn C Roxburghii, Griff</i>
Vibhitaka विभीतक	Bahera, H B	Terminalia bellerica, Roxb
Vidanga विडङ्ग	Biranga, B Baberang, H	Embelia Ribes, Burm <i>Syn E glandulifera, Wight</i>
Vidāri विदारी	Bhumi kumra, B Bilai kand, H	Ipomoea digitata, Linn <i>Syn Batatus paniculatus, Chois.</i>
Vijapuraka वीजपुरक	Taba nebu, B	Citrus Medica, Linn var
Vijayā विजया	. ..	See Bhangā
Vikankata विकङ्कत	Banch, B Kantai, H	Flacourtia Ramontchi, L'Herit <i>Syn Flacourtia sapida, Roxb</i>

SANSKRIT	VERNAKLAI	SCIENTIFIC NAME
Vilva विल्व	Bcl, II B	<i>Agle Marmelos</i> , Corr
Vimbi विम्बी	Telikuchā, B Kunduri, II	<i>Cephalandra indica</i> , Naud <i>Syn Momordica monadelphica</i> , Roxb
Virana वीरणा	Benā, B Khas khas, H	<i>Andropogon muricatus</i> , Retz
Visha विष	Sringi bish, B Dagrā bish, H	<i>Aconitum ferox</i> , Wall
Visalyakrit विशल्यकृत्	Hāpar mah, B	<i>Vallis Heynei</i> , Spreng <i>Syn Echitis dichotoma</i> , Roxb
Visamushā विषमुष्टि		<i>Strychnos Nux-vomica</i> , Linn
Vitkhadira विट्खदिर	Guu bablu, B	<i>Acacia Farnesiana</i> , Willd <i>Syn Mimosa Farnesiana</i> , Linn
Vridhadāraka वृद्धदारक	Bytarka, B	<i>Argyrea speciosa</i> , Swt. <i>Syn Litsomia nervosa</i> , Roxb.
Vrihati वृद्धती	Byakur, B Gurkamai, B	<i>Solanum indicum</i> , Linn.
Vrischikali वृश्चिकाली	Barhanta, H Bichati, B	<i>Tragia involucrata</i> , Linn.
Yajnadumbur यज्ञदुम्बुर	See Udumbara
Yamani यमानी	Joān, B Ajwan, H Jashtimadhu, B	<i>Carum Copticum</i> , Benth, <i>Syn Ptychotis Ajowan</i> , DC.
Yashtimadhu यष्टिमधु	Jeti madhu, II Mulhatti, H.	<i>Glycyrrhiza glabra</i> , Boiss.
Yava यव	Jab, B Jav, H	<i>Hordeum vulgare</i> , Linn
Yavanāla यावनाल	Joār, H	<i>Sorghum vulgare</i> , Pers <i>Syn Holchus Sorghum</i> , Linn.
Yuthika यूथिका	Jun, B Juthi, II	<i>Jasminum auriculatum</i> , Vahl.

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OPINIONS OF NEWSPAPERS AND EXPERTS.

This is the most interesting work on the *Materia Medica* of India which has yet been published in the English language and will be welcomed by all students of the history of medicine. It is only through the united efforts of English educated native scholars that we can hope to acquire an adequate knowledge of the immense repository of pharmaceutical and therapeutical learning treasured up in the ancient Sanskrit medical literature of India and of which we still really know nothing * * *. In this work we have for the first time a strict compilation as regards prescribing, compounding and the therapeutics of the actual texts of the principal Hindu writers on *Materia Medica*.

Dr Birdwood in the Academy—August, 1877

Although the author modestly describes the book as a compilation from standard Sanskrit medical works, he has evidently brought very considerable personal knowledge to bear upon it, availed himself of all the possible sources of information, and exercised great discrimination in distinguishing between the practical uses of the drugs from those which are occasional, or in many cases only theoretical. The author has evidently taken great pains also to make the work as trustworthy as possible, having given the original Sanskrit text in foot notes so that the reader may be able to compare it with the translations given.

Much interesting information will be found scattered throughout the book, the general tenor of it shows that the Hindus are far in advance of many other Asiatic peoples in their knowledge of the properties of medicines and that they use with boldness and skill many powerful medicines, such as arsenic, aconite, mercury, &c.

A very comprehensive glossary of the native names of Indian plants in Sanskrit and Vernacular with their scientific equivalents, and a good index, conclude a work which should be in the hands of every European physician in India and which from its intrinsic value should find a place in every medical and pharmaceutical library.

The Pharmaceutical Journal and Transactions, February, 1878

The information conveyed is very interesting, not only to those numerous members of the profession who will be practising in India but also to the cultivators of therapeutical knowledge throughout the world * * * *

Medical Times and Gazette, June, 1878

It is a very valuable work and I am delighted to see a Hindu scholar throwing so much light on a most important but little known branch of Sanskrit learning

— o —
Professor E B Corvell

Fills up a gap in the English Medical literature of India

— o —
The Medical Gazette

The work forms a valuable contribution to the history of drugs and will be found both useful and interesting by every student of medicine. Nor is it without interest to the general reader to whom the descriptions will be perfectly intelligible. * * *

The glossary of Indian plants that concludes the volume affords one more illustration of the valuable results that must always follow in a combination of skilled European and native labour on such subjects. There are many similar publications in existence but they are for the most part defective and obsolete. The combined work of Dr Dutt and Dr King has produced a most valuable contribution to the botanical science of the world.

Calcutta Review, July, 1877

— o —
If Babu Uday Chand Dutt is disappointed in the circulation of his work it will not be for want of a worthy design or of any of the qualities necessary to its successful accomplishment, but of a class of appreciative readers, sufficiently large to give his labours usefulness of the high order at which he aims.

Englishman.

— o —
* * * We have no hesitation in declaring his "Hindu Materia Medica" to be one of the most valuable contributions to Indian medical literature added during the present age. His work will be considered as a glorious example of what a well educated doctor with long experience and a disinterested love for his fellow beings and with a true appreciation of what was good in olden times, can do for his own country. Our acknowledgements are due to him for his eminent services to the cause of the Hindu system of medicine, which will, we hope, continue to receive fresh exposition from him. * * * Now that the value of the Hindu system of treatment and of indigenous drugs in chronic diseases is beginning to be more and more appreciated, it will be well for all medical practitioners in India to secure a copy of Babu Uday Chand Dutt's "Hindu Materia Medica." The knowledge of the Hindu system of medicine so long considered difficult to attain, has by the present work been made much easier of acquisition.

The Indian Mirror, April 27, 1877

